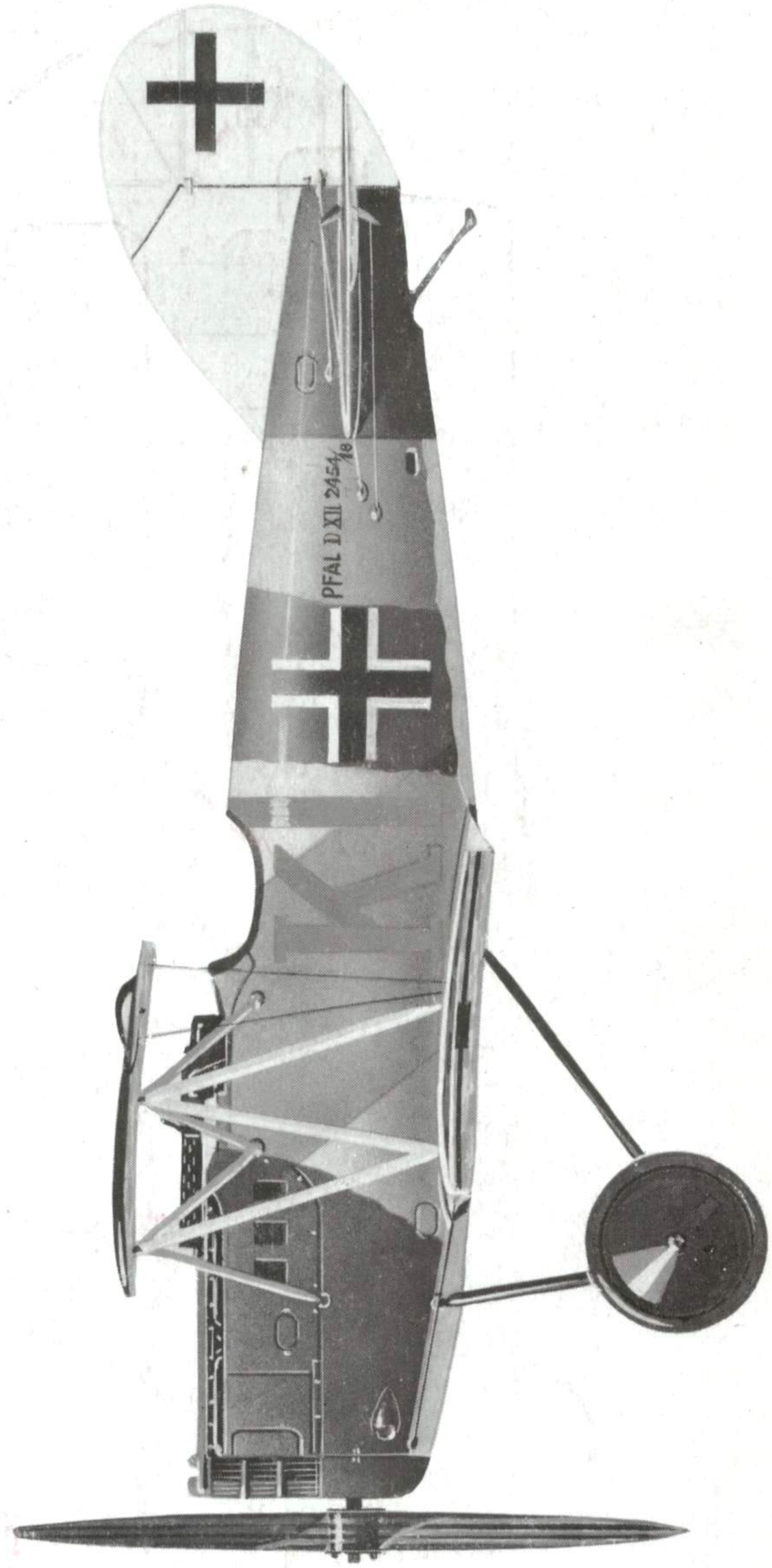
PROFILE PUBLICATIONS

The Pfalz D XII

NUMBER 199



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PFALZ D.XII, 2454/18, flown by Leutnant Max Kammerer of *Jagdstaffel 35.*

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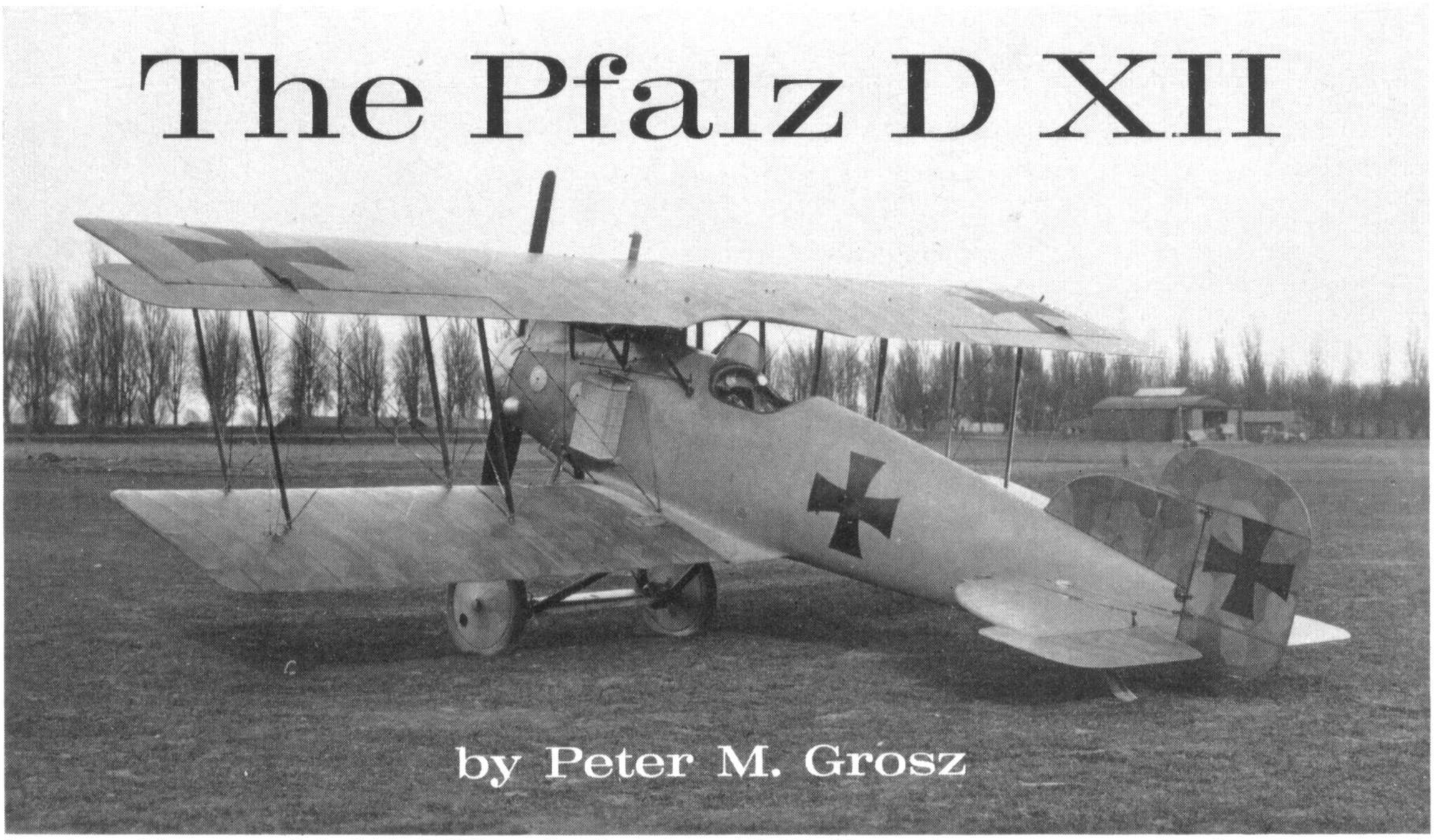
The Pfalz D XII



by Peter M. Grosz

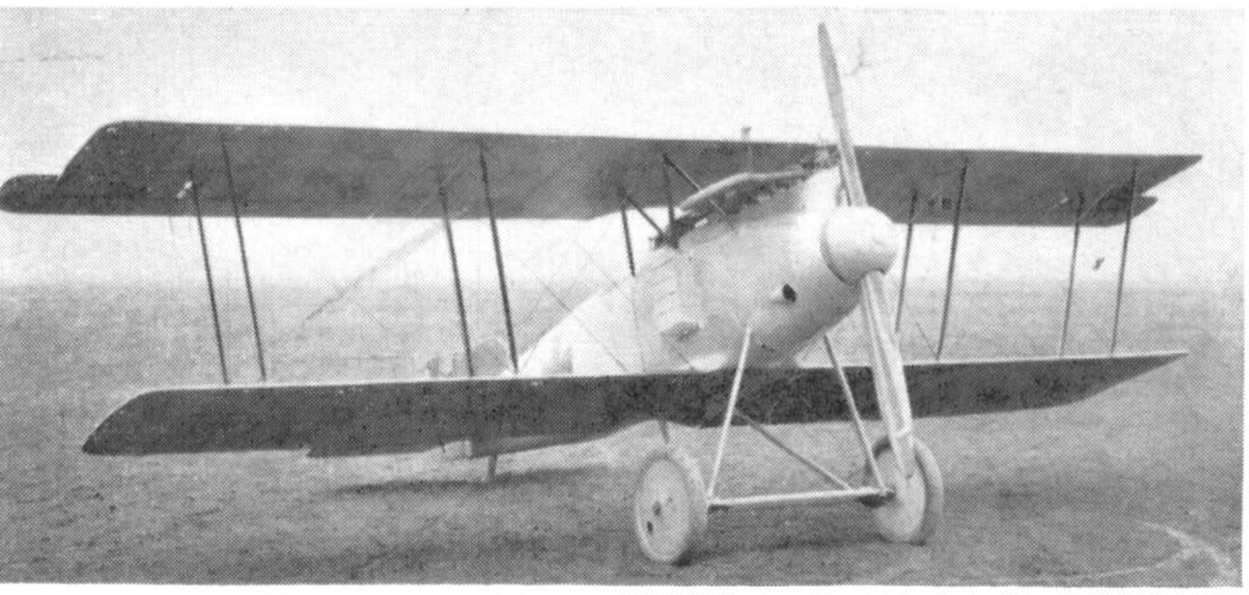
Experimental forerunner of the Pfalz D.XII, unofficially designated D.XI. No machine guns are mounted, and an airscoop can be seen under the nose; this photograph was taken early in 1918. (*Unless otherwise indicated, all photographs appearing in this Profile are from the author's collection*).

By the end of 1917 the Pfalz Flugzeugwerke was solidly entrenched as a leading producer of German fighter aircraft, a reputation won mainly by the excellent and highly-regarded Pfalz D.III (*Profile* No. 43). This sleek fighter was the first production type Pfalz had developed entirely on its own; previous series had been built under license arrangements with Morane and Roland*. Between June and September 1917, 850 D.III and improved D.IIIa had been ordered by *Idflieg* (*Inspektion der Fliegertruppen* = Inspectorate of Flying Troops). As a result, mass production was in full swing at the factory in Speyer am Rhein. During 1917 the Pfalz work force had quadrupled and the plant facilities doubled. With the success of the D.III as inspiration and evidence of their skill, the men of the design bureau, led by *Oberingenieur* Rudolph Geringer, were now independent of license-designs and possessed confidence in their own accomplishments. They would henceforth devote themselves entirely to designing fighter aircraft (with the exception of one or two experimental two-seaters) to meet the insatiable demands of the Front.

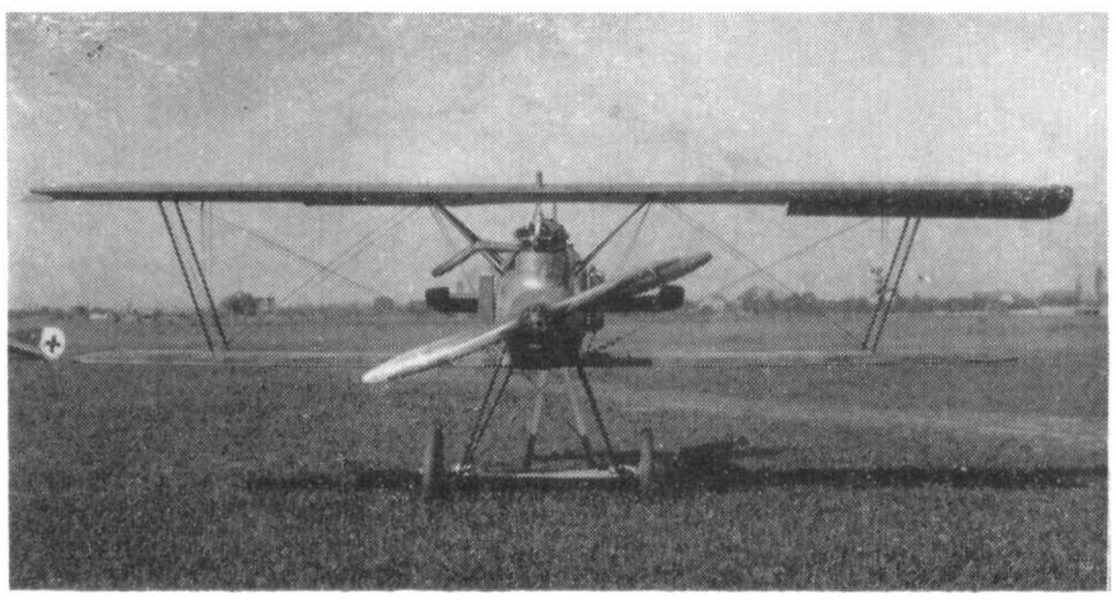
According to official *Idflieg* monthly status reports, by November 1917 the Pfalz design bureau had eleven new fighters on the drawing boards, in the prototype shop and on flight test status. This "coming of age" is underlined by the remarkable fact that the total design staff at this time consisted of fifteen people! The projects were: (1.) D.IIIa as a triplane (in flight test); (2.) D.IIIa with 200 h.p. Austro-Daimler engine for the Austrian Army (in construction); (3.) D.VI (in static test); (4.) Dr.I (a prototype series of ten in construction); (5.) Dr.II (in flight test); (6.) D.VII (in design); (7.) D.VIII (in design); (8.) D-type without wire bracing with 160 h.p. Siemens Sh.III engine (in design); (9.) D.IV with 185 h.p. Benz Bz.IIIa engine (in construction); (10.) D.V with 200 h.p. Adler Ad.IV engine (in construction); and (11.) D.IIIa with "twin-bay Spad-type wing assembly" (in design). The last named project would eventually reach squadron service in the latter half of 1918 as the

* *Alfred Eversbusch, one of the owners of the Pfalz Flugzeugwerke told the writer that he personally paid a royalty to M. Saulnier in early 1919 on every Pfalz parasol and monoplane built under the license agreement during the war.*

The same machine (*heading picture*), *with guns fitted and the airscoop removed or retracted.*



Nothing is known about this aircraft, possibly another experimental fighter developed in connection with the D.XII. The style of the cross in the background and the ear radiators would place this type as being built in the spring of 1918.



Pfalz D.XII, after much delay. The report ends with the following *Idflieg* appreciation: "The intensity with which the Pfalz company is working on these various projects is to be commended."

There is no concrete evidence available at this writing to substantiate whether the Pfalz D.XII design was influenced by the Spad.* *Obering*. Geringer recalls examples of captured Allied aircraft being made available at Pfalz for study and comparison but he does not specifically remember the Spad. It is the writer's opinion that the Spad played a rôle, if minor, in the creation of the D.XII; just as the Nieuport did in the Pfalz D.III. German pilots were greatly impressed by the 200 h.p. Spad's speed and ability to dive, accentuated by the fact that 96% of the German fighter complement (in December 1917) was outclassed by the Spad in these categories. During a dive the Albatros D.III and D.V/Va had a tendency toward twisting the lower wings (sometimes resulting in their complete loss) and the Pfalz D.III and D.IIIa, as well as the Albatroses, suffered from incipient upper wing-tip flutter (which could cause the ailerons to fly off). Emergency fixes were never entirely satisfactory. This is one reason why the V-strut configuration introduced by the Nieuport in 1916 fell out of favour with aircraft designers in the last year of the war.

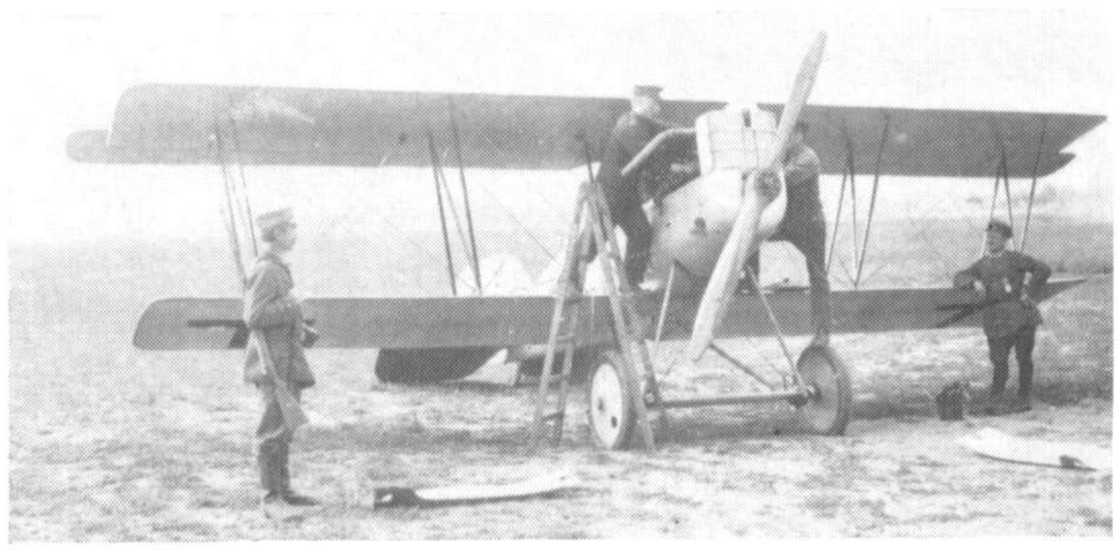
No doubt reflecting the desires of all German fighter pilots, the top aces who participated in the First Fighter Competition at Adlershof in January-February 1918, made it known that speed was a fighter's most valuable asset. German designers, like those of the Allies, began to concentrate on speed and we see the development of special airfoil shapes, careful streamlining, monoplane configurations, greater horsepower, cantilever and unbraced wing assemblies and, above all, robust airframes.

The first actual mention of the Pfalz D.XII in the *Idflieg* status reports appears in February 1918: "The D.XII with a 160 h.p. Mercedes engine is under construction. The fuselage is smaller and shorter than that of the Pfalz D.III. The firm expects to achieve very good results with this aircraft." By this time the First Fighter Competition had ended. The Fokker V.11 was chosen winner and placed into large scale production at Fokker and Albatros under the designation Fokker D.VII†. Smaller pre-production orders were awarded for the Rumpler D.I (50 aircraft), Siemens-Schuckert D.III/DIV‡ (50), Pfalz D.VIII (200) and Roland D.VI (50).

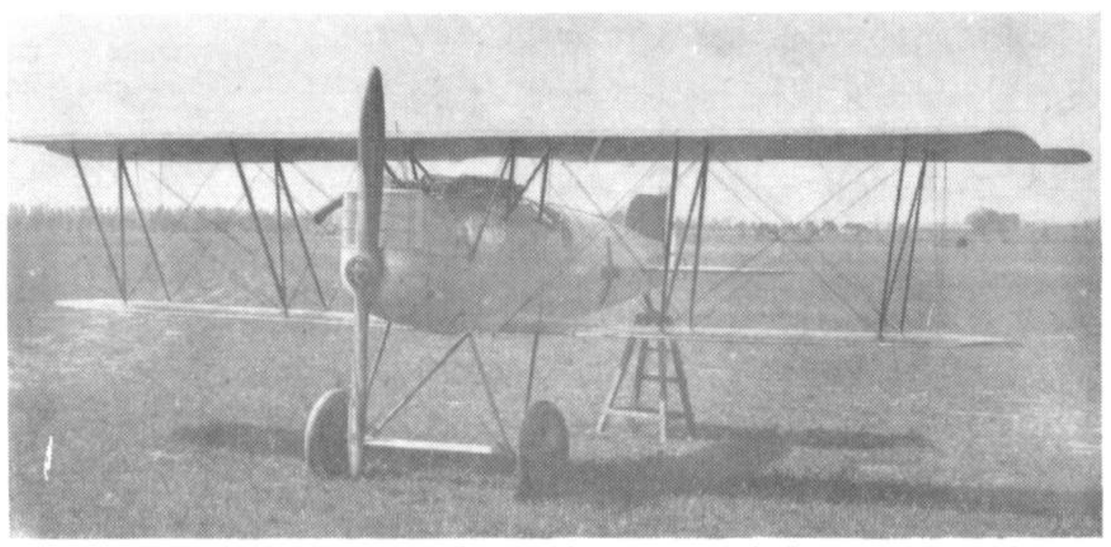
The oft-repeated statement that the Pfalz D.XII preceded the Fokker D.VII into service is false; in fact, only several Pfalz D.IIIa and the rotary-engined D.VI, D.VII and D.VIII took part in the First Fighter Competition. At the time the D.XII was still on the construction jigs.

A complete photographic or even written record of the Pfalz experimental fighter development is unknown to the writer, but new photos of heretofore unknown Pfalz fighters have a disconcerting habit of turning up. Therefore the development cycle of the D.XII must be viewed wih caution. It is reasonably certain that among the earliest prototypes in the D.XII cycle is the twin-bay fighter fitted with large ear

An early production D.XII, with rectangular tail, being readied for a test flight; in the cockpit is Pfalz test pilot Otto Augst.

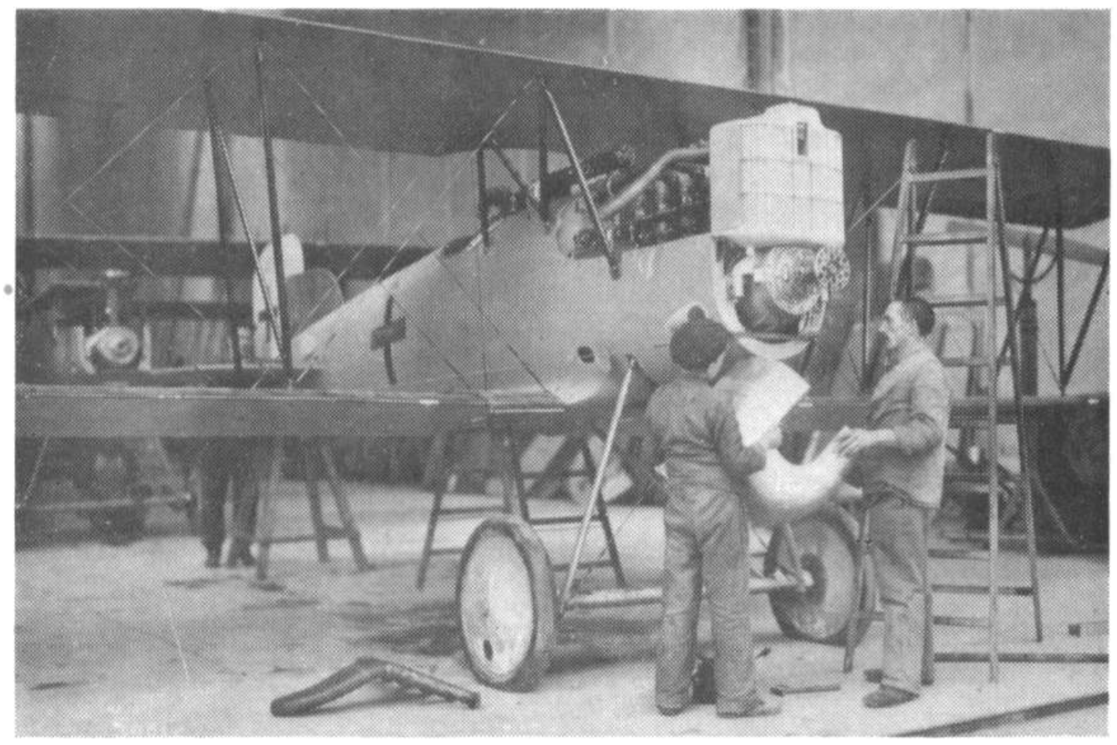


An early D.XII being serviced on the Pfalz airfield.



Another early D.XII, without slipstream deflector on radiator; this was fitted to later models to improve cooling efficiency.

(Below), *an early production machine near the end of the assembly line.*



* *Profile No. 17, The SPAD XIII, is uniform with this booklet; Profile No. 217, The SPAD VII, will be available as from March 1968.*

† *Profile No. 25, The Fokker D.VII.*

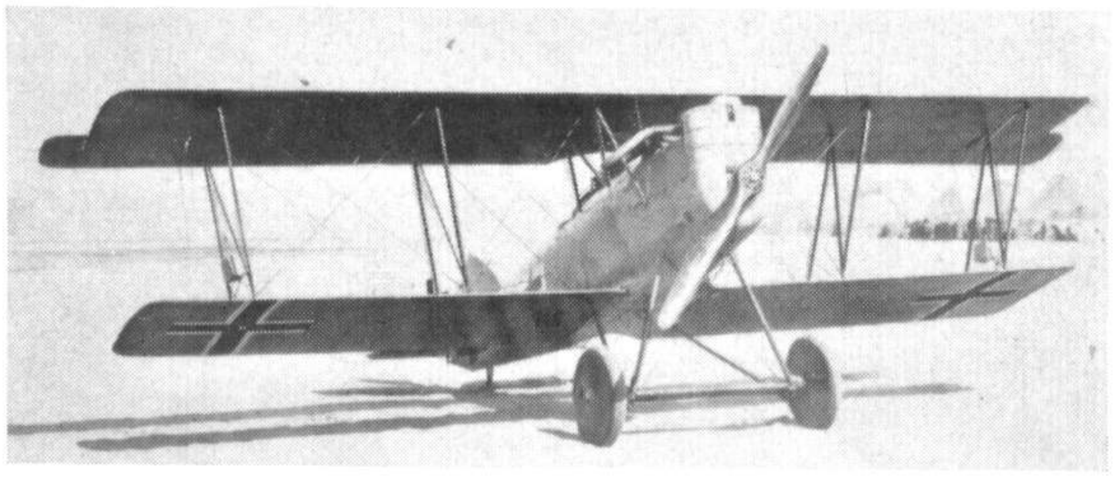
‡ *Profile No. 86, The Siemens Schuckert D.III and D.IV.*

Two views of Pfalz D.XII 1375/18 *at the Second Fighter Competition; note oval tail, barograph boxes on struts, and differing styles of cross on wings and fuselage.*

radiators on what appears to be a D.III-type fuselage. The designation has been reported as D.XI by former Pfalz personnel but unfortunately no documents have been found to substantiate this statement.

The awkward ear radiators were a retrogression and not what one would expect of the creators of the D.III and D.VIII. Actually ear radiators had earlier been discarded because of their high drag; their inefficient cooling due to boundary layer losses; their detrimental influence on the smooth flow of air over the tail surfaces; and their restriction of the forward field of vision. Since the nose radiator fitted to the production D.XII was a new and unproven design, it is likely that ear radiators were installed until the new radiators could be delivered. The production radiator, built by Teves und Braun, was unusual for its vertical cooling tubes, as opposed to the more conventional finned metal types seen on the Fokker D.VII. This innovation was to prove very troublesome.

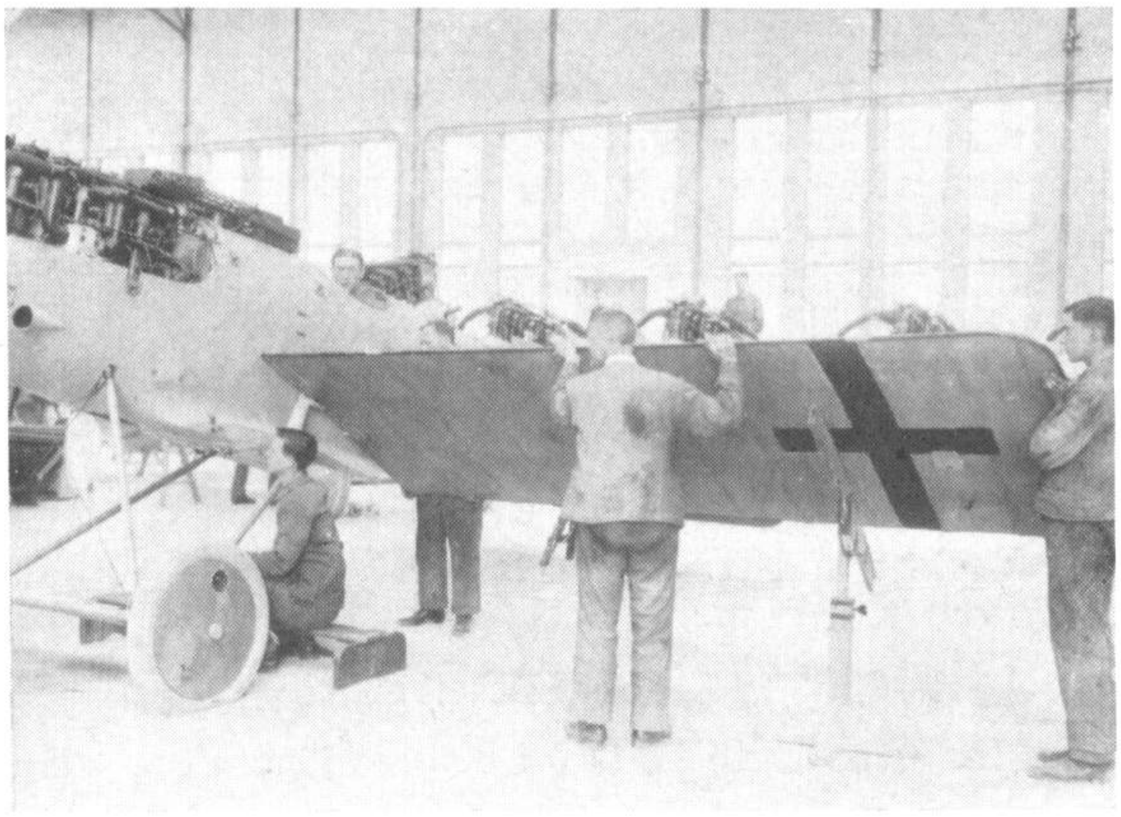
The next *Idflieg* report (March 1918) states that the Pfalz D.XII powered by a 160 h.p. Mercedes D.IIIa engine and the Pfalz D.XIV with a 200 h.p. Benz Bz.IV engine had been ordered into series production.

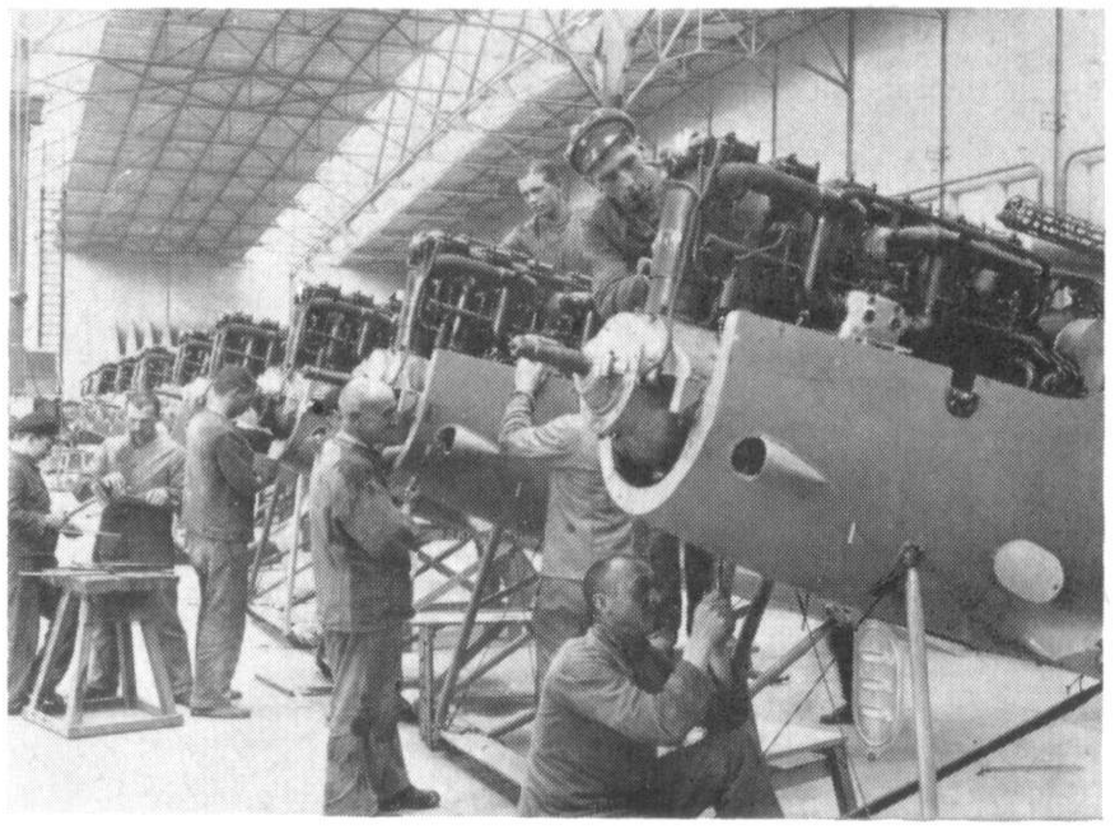


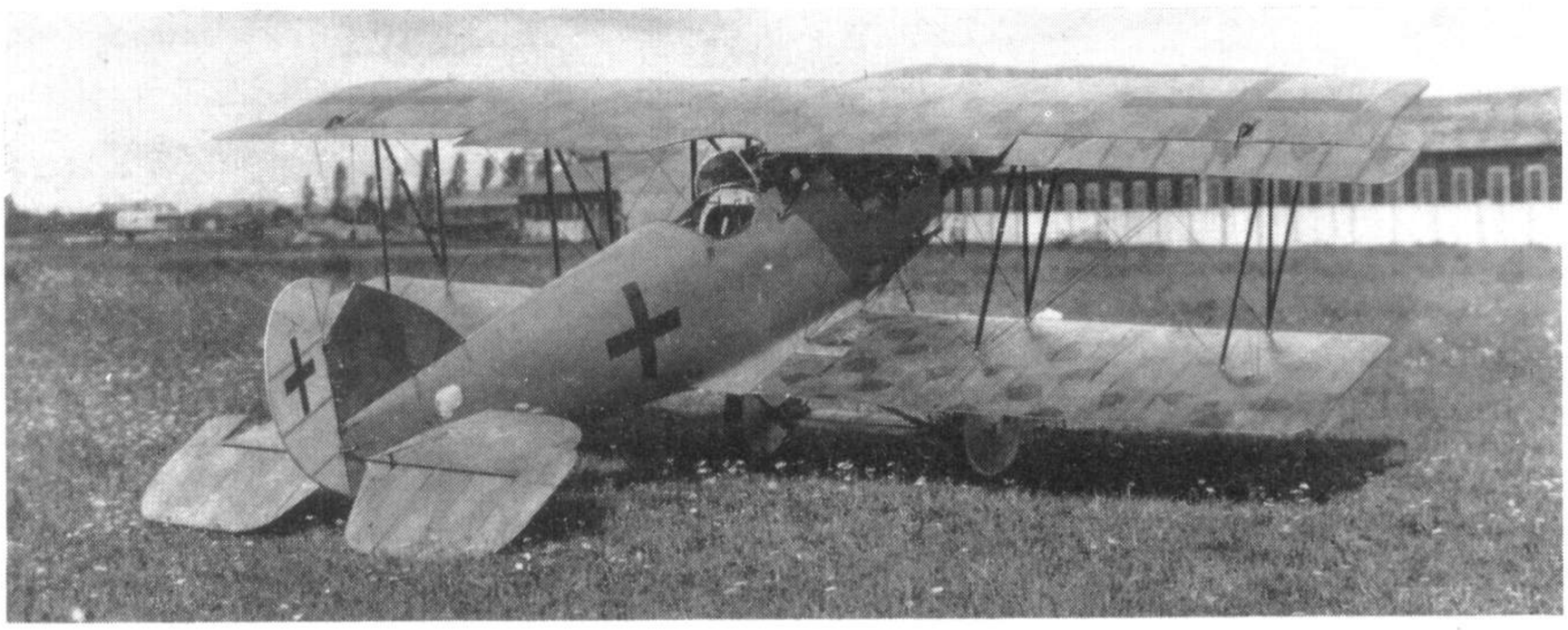
Both the D.XII and D.XIV prototypes had shown good climb and flight characteristics. "*Typenprüfung* (Type test)* will be performed without having any influence on production." It is interesting to note that these two fighters were placed into production *prior* to the *Typenprüfung* and the forthcoming Second Fighter Competition in May. Although this may have been unheard of a year previously, Allied air forces "had made great strides in quantity and quality" and fighters were a number one priority to

* Typenprüfung *consisted of a series of rigorous official test and evaluations, both static and flight, that had to be successfully concluded prior to release of the type for front-line use.*

(Left), *assembling the lower wing on a D.XII; note lozenge pattern showing through the light blue underside paint.* (Right), *installing engine components; the worker in uniform is a specialist released from Army service.*

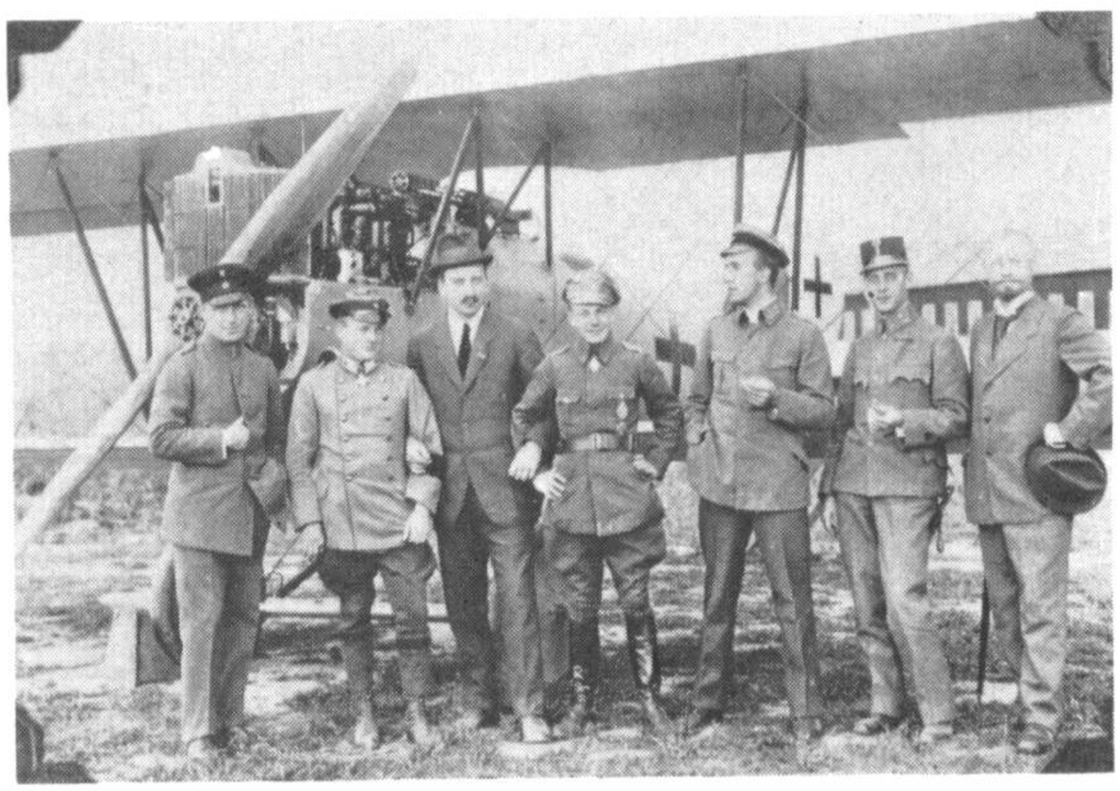






Pfalz D.XII 2454/18 *fresh from the factory before application of fuselage camouflage pattern. The serial number is stencilled above the cross on the tail, on the elevator, and on the trailing edge of the lower wing. A chalked* fertig *on the lower wing means the aircraft is passed and ready.*

The fuselage of 2454/18 *after the application of camouflage and the outlining of the crosses with white. The machine belonged to* Leutnant *Max Kammerer of* Jasta 35, *and is the subject of the five-aspect painting on p.2 of this* Profile.



A group of experts inspecting D.XII 2603/18*: left to right,* Obltn. *Seibert*, Ltn. *Klein*, *Pfalz owner Alfred Eversbusch*, Ltn. *Udet*, Ltn. *Krefft*, k.u.k.Obltn. *Lucas*, *and* Burgermeister *Dr. Moericke.*

counter the growing Allied air strength. *Idflieg* knew that tooling for mass production required months, and the sooner management had a firm order, the better.

In the April report we read that "The D.XII will phase in at the end of the D.IIIa production line (the last of these machines are to be shipped to Turkey) on approximately the 10th of May but only after development tests with the radiators have been satisfactorily concluded." This was the first inkling of a problem that was to delay the introduction of the D.XII for many months. Also in April, twelve of the new Siemens motor machine guns were shipped to Pfalz for eventual front-line evaluation in the D.XII and preparation of the installation drawings. The Siemens gun did have a high rate of fire and showed much promise but teething problems were never fully cured and it was used operationally only for a short time.

In April 1918, all German fighter manufacturers were feverishly preparing their latest designs for flight demonstration, speed and mock combat tests at the Second Fighter Competition scheduled at Adlershof between 27th May and 21st June. Pfalz had by now released manufacturing drawings, completed tooling and was constructing a small D.XII quantity (possibly a batch of 50) both for the Competition and the *Typenprüfung*. These machines, probably in the 1350-1400/18 series, were characterised by a rectangular-shaped fin and rudder. It is highly likely that the standard oval-shaped tail was retro-fitted to the D.XII at the Competition.

THE D.XII DESCRIBED

The production D.XII differed from the prototype by having N-struts and a nose-mounted radiator. The strut layout was extremely robust. Pfalz engineers knew of the problems encountered with the D.III and, no doubt, the Albatros D.V. One wonders if they also were aware of the difficulties Albatros had with its D.IX. An acknowledged Spad copy, it had crashed due to wing failure on 18th January. Moreover the prototype Albatros D.VII, also based on the Spad, was given redesigned wings after the Spad system was found unsatisfactory. It was characteristic for *Idflieg* to pass such design information on to the aircraft firms.

The D.XII fuselage was built in the same manner as the D.III although it was slightly shorter. It was a semi-monocoque structure consisting of a shell fabricated from two thin diagonally-laid three-ply wooden strips. The shell was formed in halves over a master form, glued and reinforced at the joints with cloth strips. The half-shell was removed, finished inside and out, then attached to a light supporting fuselage framework, finally covered with fabric and doped. The result was an amazingly strong, practically indestructable shape which, according to one Pfalz engineer, could not be dented with a sledge hammer. It was able to absorb substantial combat punishment without breaking up.

To speed production, the fuselage and fin were no longer integral as in the D.III. The fin was a welded, steel-tube, fabric-covered structure bolted in place. The wooden tailplane, however, remained part of the fuselage and could not be removed. The rudder, elevators and ailerons were built of welded tubing, covered with fabric and aerodynamically balanced.

The Mercedes engine was completely enclosed with louvered aluminium panels.

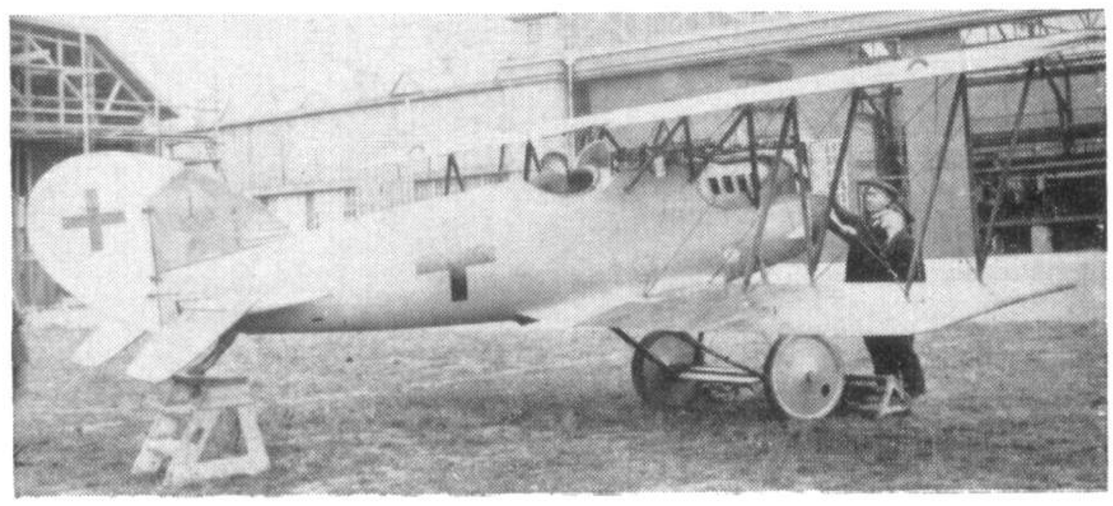
The upper wing was built as a single unit without

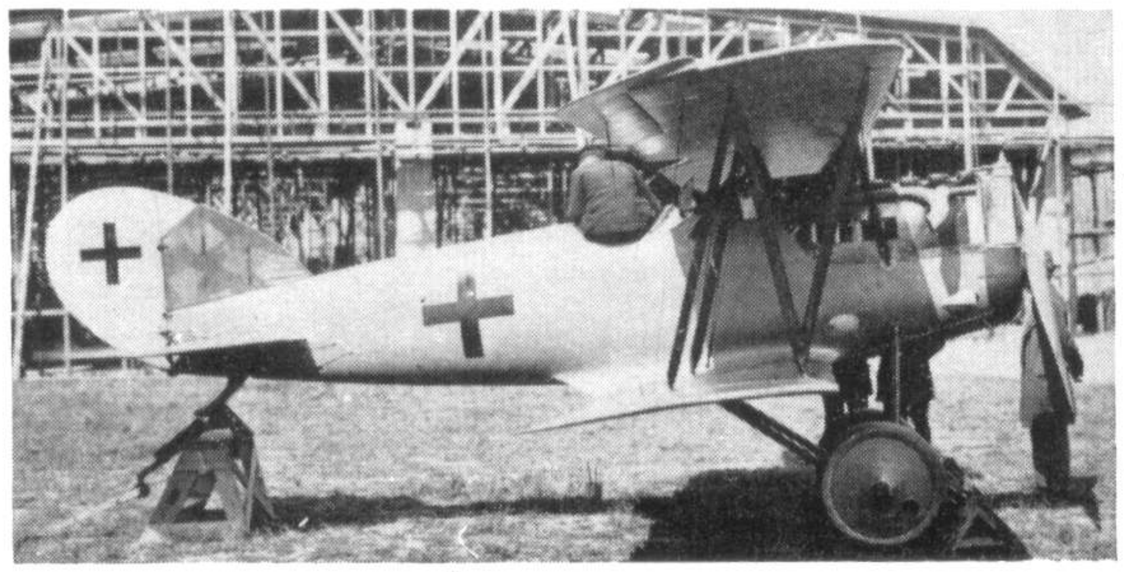
dihedral. The spars were box-type, the sides being glued and screwed to the flanges and then covered with glued fabric. The bottom wings were attached to streamlined stubs projecting from the fuselage and had a one degree dihedral. The front spar was closed to the leading edge and the rear spar was almost on the centre-line of the wing. In this respect, as well as its thin airfoil section, the D.XII was almost identical to the Spad. Besides the usual lift and landing cables, there was an extra lift wire, almost vertical, running from the bottom rear spar fuselage fitting to the rear cabane strut, on the top wing. The N-struts, welded as a single unit, were attached to the spars by a ball and socket joint and fastened with a taper pin. The armament consisted of two MG 08/15 *Spandau* machine guns with 500 rounds each.

A British technical intelligence report came to this conclusion after carefully examining a captured D.XII: "The workmanship throughout is good and the design very clean and light. The cockpit is very roomy and as far as one could gather, the instruments were conveniently placed. The view from the machine is very good except vertically down." This particular aircraft, Pfalz D.XII 2486/18, works number 3086, was built in August 1918 and was shot down by Lt. Cameron (No. 1 Squadron) and Capt. Staton (No. 62 Squadron) on 15th September near Dury. It was equipped with a parachute which was stored in a bag serving as the pilot's seat cushion.

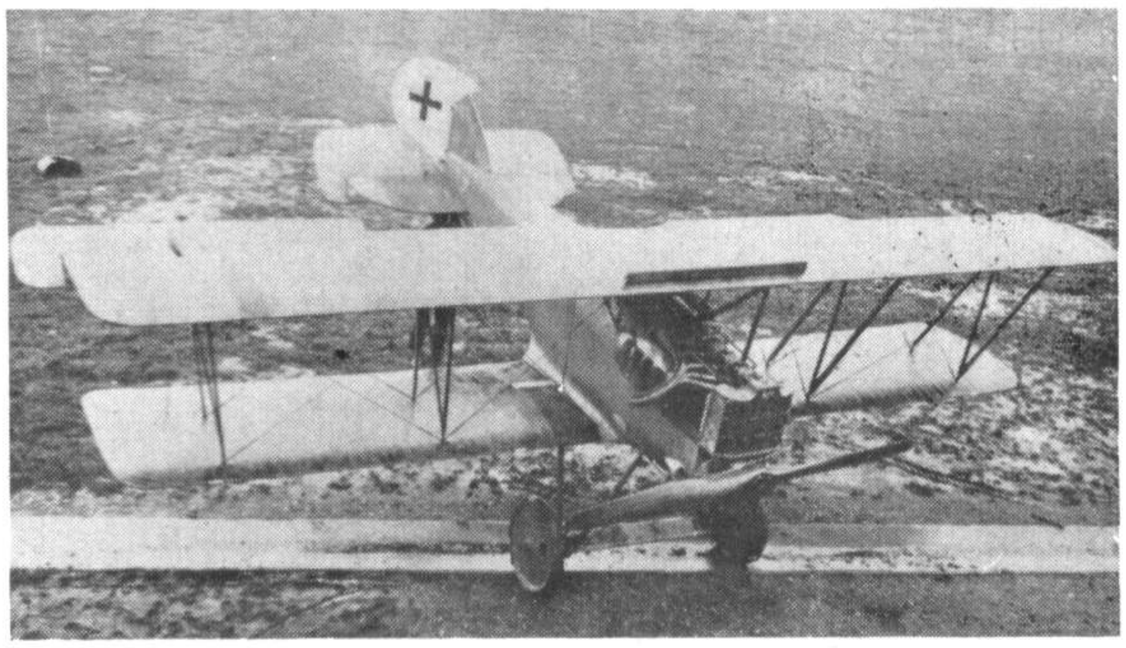
Pfalz responded to the Second Fighter Competition by sending the following aircraft: D.XII 1375/18 with 180 h.p. Mercedes D.IIIaü, D.XII 1387/18 with 165 h.p. BMW.IIIa, D.XIIa with 195 h.p. V-8 Benz Bz. IIIboü, D.XIV 28000/18 with 240 h.p. Benz Bz.IVü, and two D.VIII rotary-engined fighters. The Pfalz parasol fighter with a Siemens Sh.III engine was announced but it is not known if it appeared at the Competition. The Pfalz D.XII fighters were among the heaviest aircraft at the Competition and as expected their rate of climb was not the best, with the exception of the BMW-engined D.XII which had a climb rate among the top five aircraft: Fokker V.28, Pfalz D.VIII SSW D.III and Rumpler D.I. Unfortunately for Pfalz, the BMW.IIIa engine, just coming into production, was in very short supply and *Idflieg* decided to assign all available engines to the Fokker D.VII. It should be remembered that speed was the prime requirement of the Front. The Mercedes-engined D.XII was fast and certainly equal in a dive to any Allied, or for that matter German, aircraft.

The Second Fighter Competition was still under-way when the *Flugzeugmeisterei*, the test and proving branch of the German air service, completed the *Typenprüfung*

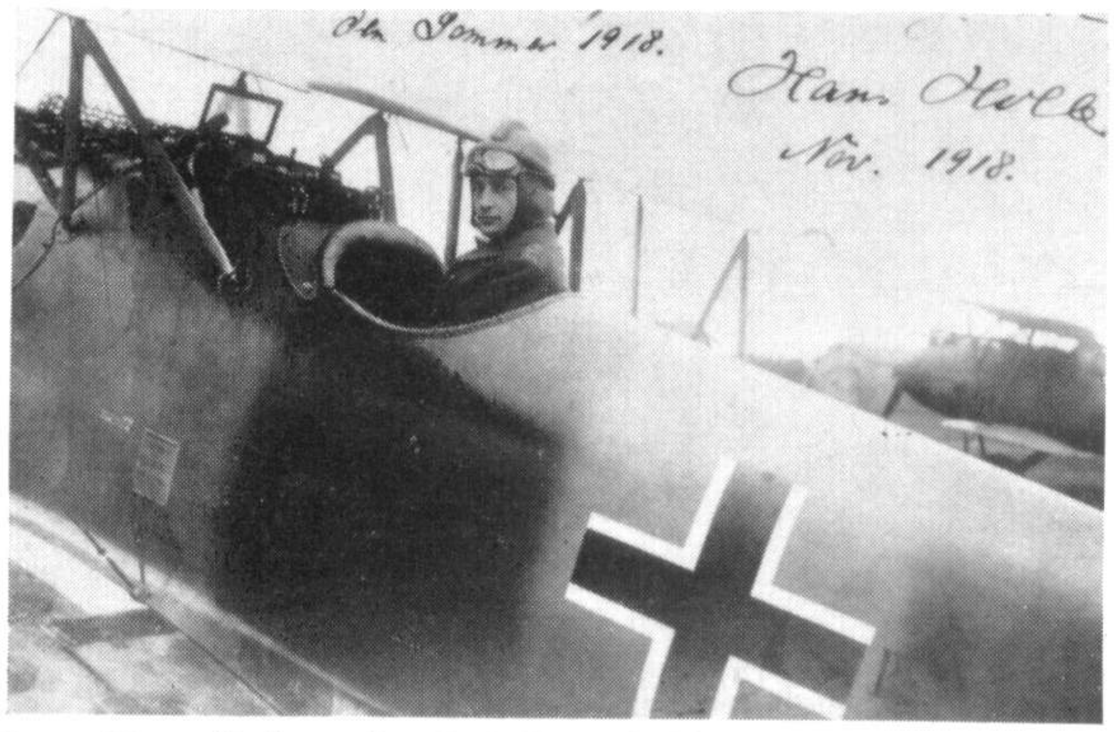




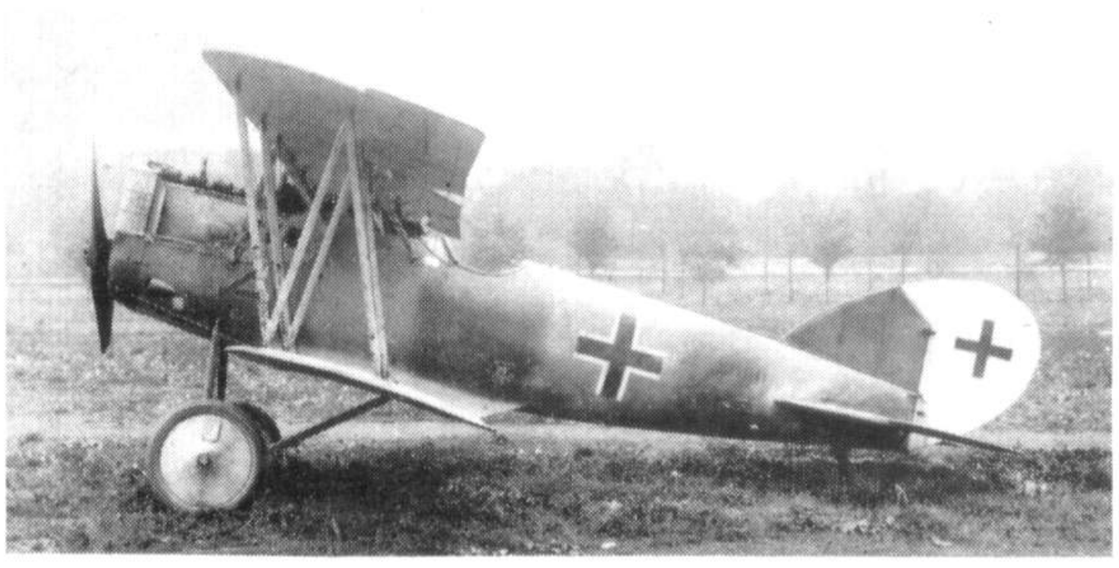
D.XII 2660/18 *as delivered from the factory, without camouflage or cross outlines. The bar on the upper wing is a meter rule.*



Pfalz D.XII 1443/18, believed to have served with Jasta 5.



Ltn. *Hans Holle in his D.XII, probably at a* Jastaschule; *the windshield has been moved forward to allow easier access to the guns. Above the lower spar attachment point are the maker's plate and rigging diagram.*



D.XII 2690/18 *captured and tested by the French; and* (below) 2670/18 *flown as war booty in Canada by de Plessier of No. 1 Squadron, Canadian Air Force. Note the shorter, thicker undercarriage as compared to earlier production models.*

of the D.XII on 19th June 1918. It was now released for unrestricted combat use. At first *Idflieg* and Pfalz had hoped to have D.XII series production commence in April 1918. But with the advent of warmer weather, the engine water temperature was running dangerously high and the radiator system had to be modified. So it was not until late June that series production and quantity deliveries actually began. On 30th June, five D.XIIs were at the Front and two months later, on 31st August, a total of 168 D.XIIs were serving with German fighter squadrons. This rapid growth implies a very high monthly production rate. Pfalz achieved its peak output for the war in August and September when 201 aircraft were delivered each month.

The absence of authentic production data makes it impossible to establish the exact number of D.XIIs ordered and built. From a study of known serial numbers the production breakdown is *estimated* as follows: the first batch was for a total of 200 aircraft (of which 50 were delivered initially) with serial numbers 1350/18 to 1549/18. The second batch consisted of 500/550 aircraft with serial numbers running from 2450/18 to 2999/18. A small cancelled D.XIV series probably began with 2800/18 and was later released for D.XII numbers. The probable total of 750 to 800 D.XIIs built is consistent with the known 402 aircraft delivered in August and September, 157 in October and an estimated 250/300 delivered in June and July. The majority of these must have been D.XIIs.

The Pfalz D.XIV, a heavy aircraft to begin with, did not show exceptional promise at the Second Fighter Competition and the production order was cancelled although the *Typenprüfung* was completed in July. *Idflieg* decided that the Benz Bz.IV engine could find more useful employment in C-types.

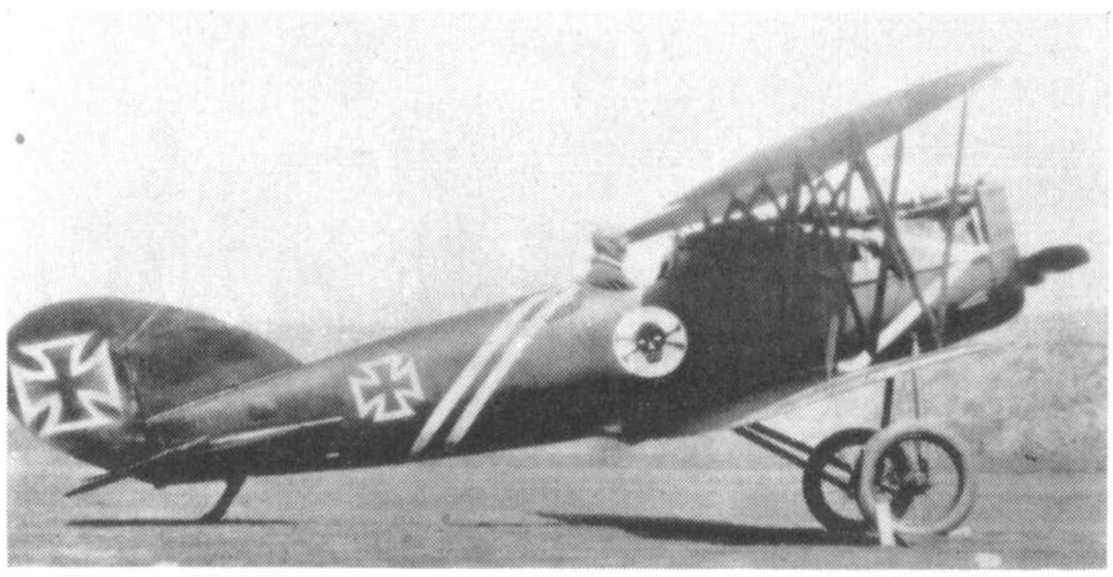
PILOT ASSESSMENT

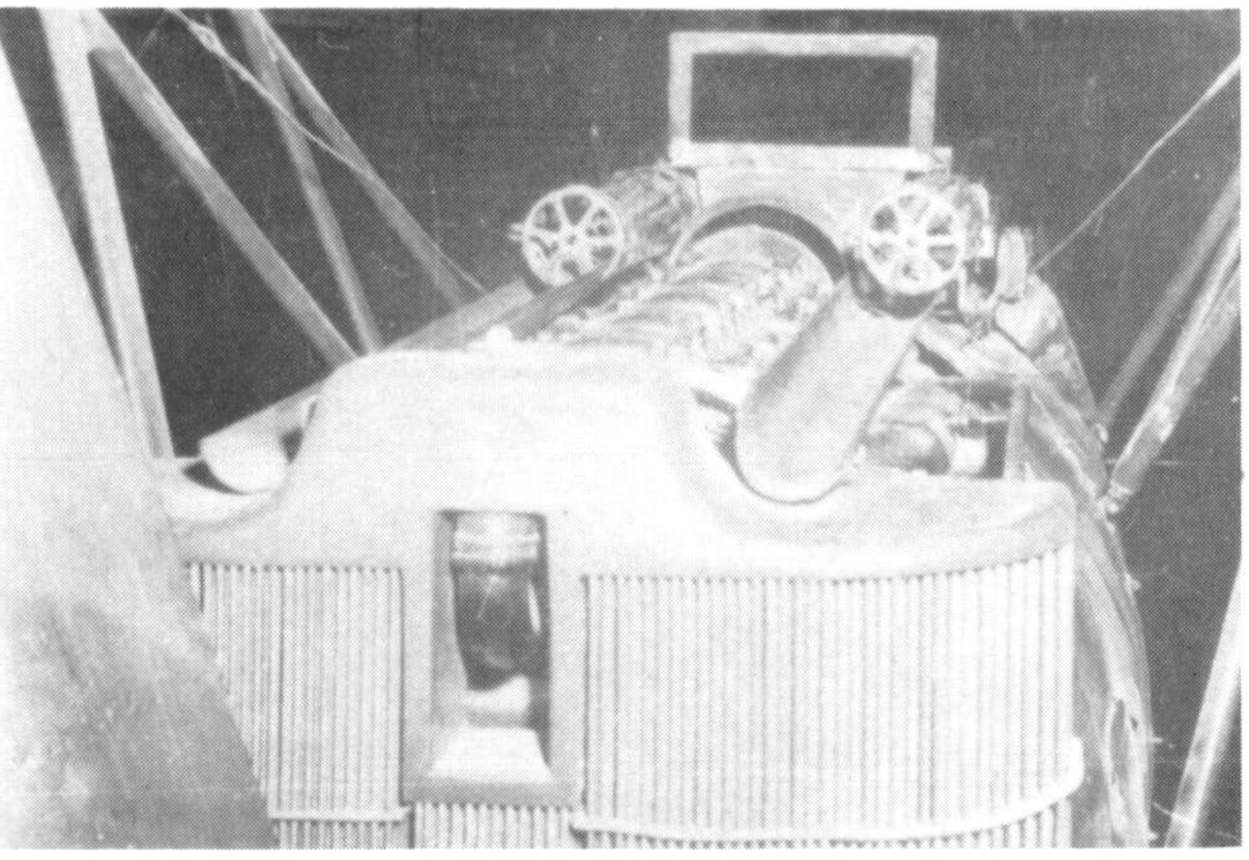
The D.XII was in wide squadron service as part of the regular squadron re-equipment programme. There were just not enough of the preferred and highly-regarded Fokker D.VIIs to go around. Many squadrons operated D.VII and D.XII simultaneously. Ltn. Rudolf Stark, C.O. of *Jasta 35*, writes: "During larger operations we flew the Fokker D.VII and the Pfalz D.XII mostly together. Both types were similar, but the Fokker was more manoeuvrable. Therefore the Pfalz pilots had orders from me, during attacks by the enemy, to fly below the Fokkers." The D.XII remained at the Front until the Armistice.

One reason perhaps that the D.XII has hardly been mentioned in Allied reports and reminiscences is that the Fokker D.VII had captured every Allied pilot's imagination. From a distance the D.XII could easily be taken for a D.VII. Then too, the D.XII was generally assigned to squadrons operating in the more quiet sectors; the top squadrons and those

D.XII 2695/18 *has its crosses obscured, indicating capture and test flying by the Allies.*

A D.XII taken to the United States for study after the war; it is seen here in preposterous markings for one of the air war films so popular in the 1930's. (Photo: W. R. Puglisi)





The business end of Pfalz D.XII 2600/18 at the Australian War Museum in Canberra. It is one of the four original D.XII's still in existence.

located in active sectors demanded and got the Fokker D.VII. Obviously, the D.VII was Germany's "star-turn" and those pilots receiving the unknown D.XII would certainly be quick to find fault with it in hopes of getting the D.VII. Actually the D.XII was not easy to fly and pilots did have difficulties with it. In his book *Jagdstaffel Unsere Heimat*, Ltn. Stark gives us his opinion of the D.XII: "On 1st September 1918 we were to be equipped with new aircraft; they were to be the Pfalz D.XII. We hesitated to accept these machines and only after much discussion and long telephone calls did we finally agree to take the D.XII. Every pilot climbed into the new machine with preconceived notions and immediately voiced all sorts of complaints. No one wanted to fly the Pfalz on his own accord, and those who received the D.XII were reluctant to fly the machine. Later on, the pilots did all right in the D.XII. In fact it climbed well and could fly along with the Fokker D.VII in all respects and in a dive it was a bit faster. But in turns and in combat it was slow and could not compare with the Fokkers. The Pfalz was a sluggish work horse which fought the bridle and had to be controlled with a strong halter."

Ltn. Joseph Raesch of *Jasta 43* received a D.XII on 13th August 1918 after having flown a Fokker D.VII in combat. In his diary he states: "It is alleged to be a fine aeroplane," but he was never very happy with the D.XII since it could never keep up with the 160 h.p. Mercedes-powered Fokker D.VII. On August 16th, his personal D.XII was destroyed in a bomb raid. No new fighters were available until 3rd September (indicative of the severe fighter shortage in the last months of the war) at which time he received a new D.VII.

Ltn. von Hippel, as technical officer of *Jasta 71*, was particularly critical of the D.XII. "Flying Pfalz D.XII 2675/18, I heavily damaged the aircraft on landing. Soon after this, Vzfw. Sieg crashed from a low altitude over the field and was immediately killed. As a result on 17th September 1918, I submitted the following report:

The Pfalz D.XII assigned to *Jasta 71* for combat testing is rejected for these reasons:

1. Despite the use of a high compression engine (Mercedes D.IIIaü) the aircraft climbs very poorly above 3,000 metres (9,843 feet).
2. When banking the aircraft into a turn, normal altitude can not be maintained since the sluggishness of the controls in the turn causes the aircraft to lose 150 metres (490 feet). In combat against two French Breguets, the D.XII lost excessive altitude and when attempting to regain combat position in a climbing turn, the aircraft falls off. If the pilot is successful in correcting his flight attitude from a climbing turn the aircraft then shakes excessively which can only be corrected by falling off in a slight dive.
3. The take-off roll is extremely long and landings with the D.XII are very difficult and almost always end with the destruction of the machine."

It is a fact that the D.XII had a tendency to hover while landing. Furthermore, the undercarriage was prone to collapse. To find the cause, *Idflieg* ran a series of tests (October 1918) resulting in strengthening the struts, making them a bit shorter and modifying the shock cord and axle assembly.

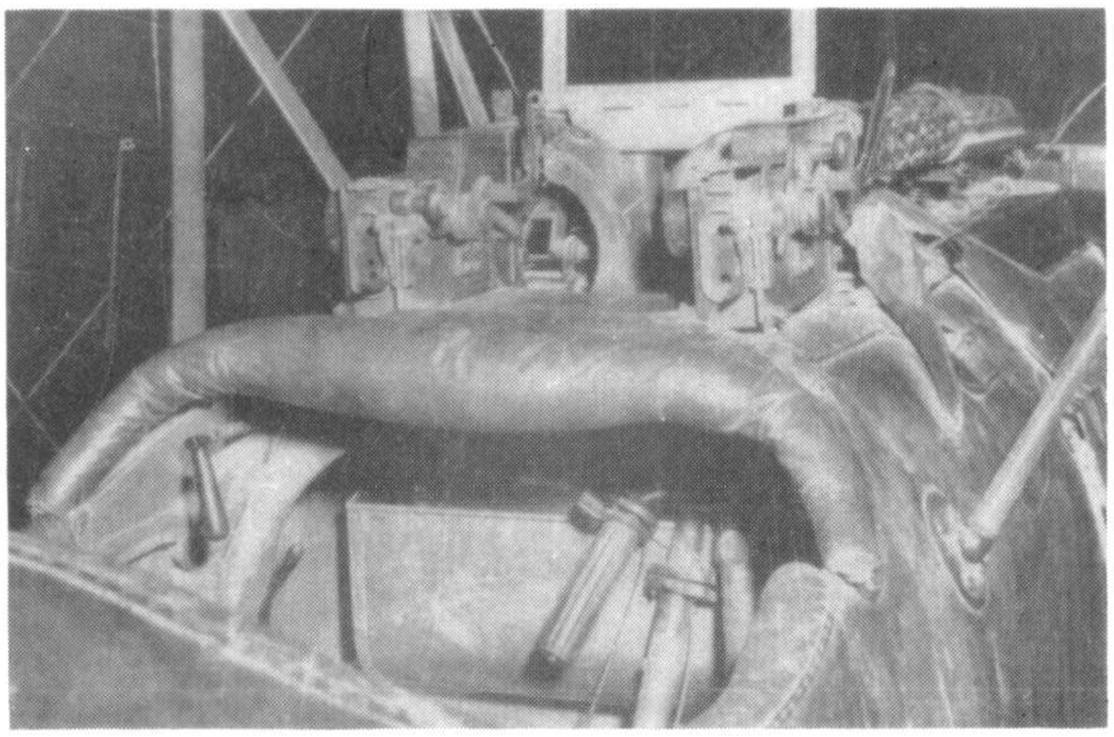
While some of the statements concerning the D.XII production background in Weyl's *Fokker—The Creative Years* are open to question in light of new data, he is correct in stating that the D.XII had flying qualities "much like those of the Spad: it had an abrupt stall and would spin on little provocation." This accounts for the "shakes" reported by von Hippel. The D.XII could not hang on its nose like the forgiving Fokker D.VII and it must have been difficult for pilots to adjust to the sudden stall characteristics.

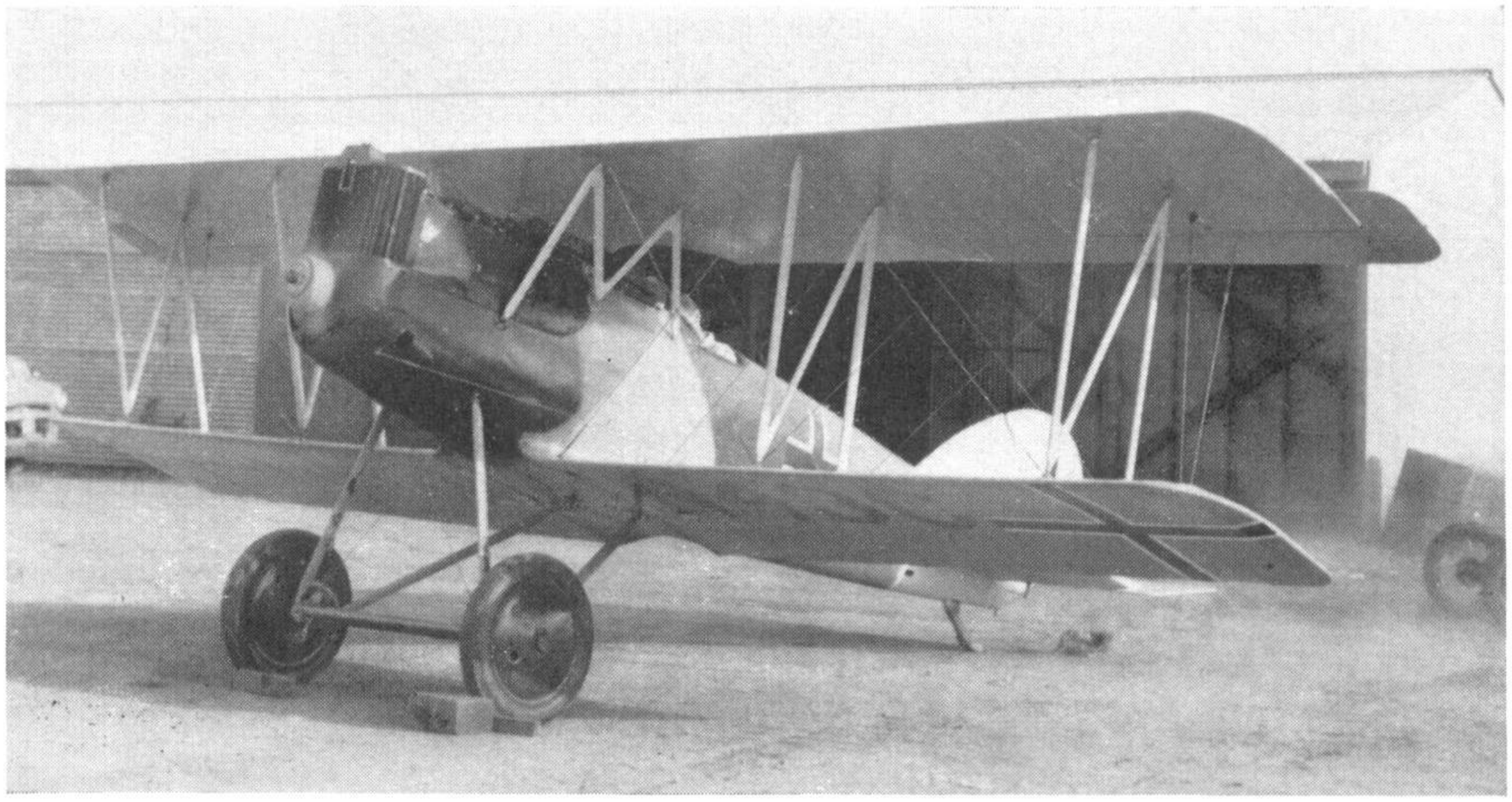
Leutnant von Hippel requested that a Pfalz test pilot visit the squadron and give a demonstration with the D.XII. In his diary he wrote: "On 3rd October a pilot of the Pfalz works flew the unpopular D.XII in magnificent manoeuvres but the D.VII was still better. This was borne out in friendly combat between the Pfalz pilot in the D.XII and myself in the D.VII."

Although not always reliable, prisoner interrogation reports in Allied intelligence bulletins are enlightening. In September 1918 we read: "Speed and climb of the D.XII are better than the Fokker D.VII but it is unpopular owing to indifferent manoeuvrability and it is also difficult to land"; and on 3rd November: "The D.XII is extremely unpopular and it is generally believed that it will never be used at the Front to any great extent." Using the Fokker D.VII as a yardstick the prisoner was telling the truth.

According to the records, by September D.XII production was tapering off and *Idflieg* was expecting

The cockpit of 2600/18; note the generous padding round the cockpit.





Originally appearing in 1930's films and later on display at Col. G. B. Jarrett's museum, this D.XII has been carefully restored and is now owned by Frank Tallman in Los Angeles. (Photo: W. R. Puglisi)

the Pfalz D.XV to replace it in October. For a time the D.XII helped relieve the chronic shortage of new fighters at the Front and was a more than adequate replacement for the 470-odd, rapidly ageing Albatros D.Va and Pfalz D.IIIa still in service in August 1918. As it was, it came too late. Had the D.XII arrived in April, powered by the superb BMW engine, history would have written a different story.

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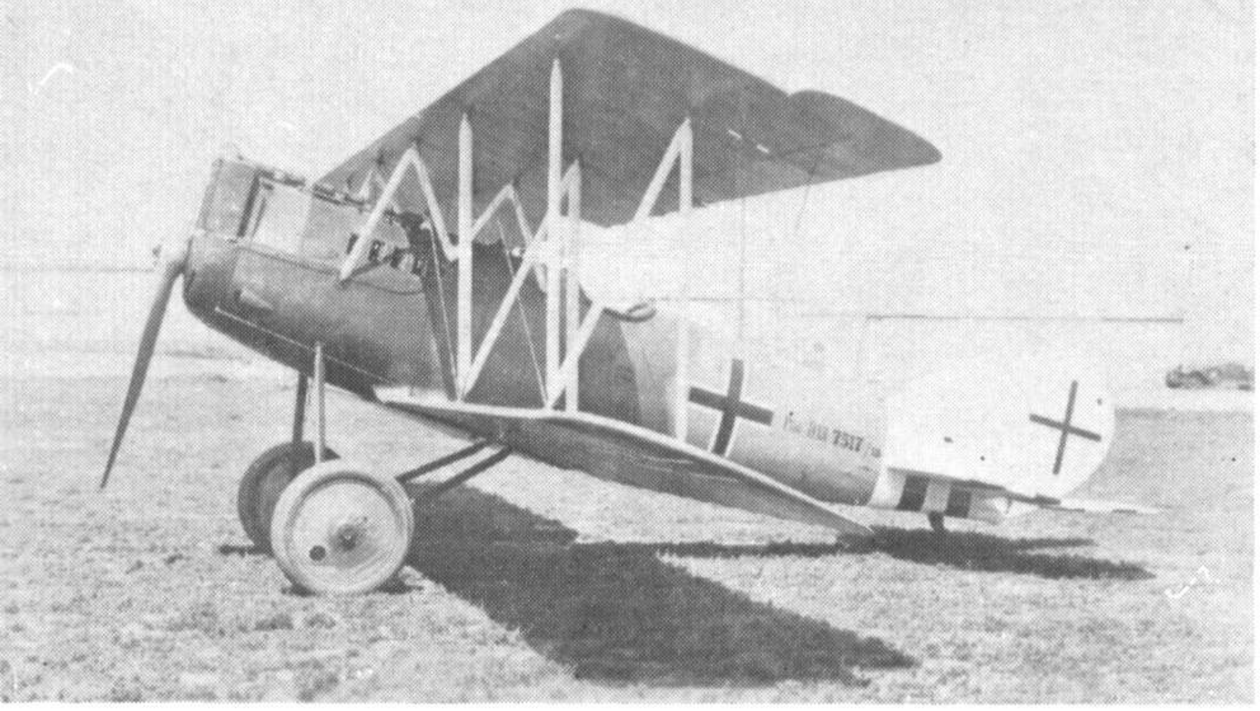
The writer is indebted to the late Alfred Eversbusch, Pfalz chief engineer Rudolf Geringer and designer Kurt Paulus for information concerning the company. The assistance of Egon Krüger, William Puglisi, Rudolf Stark, H. J. von Hippel, Hans Krüger, Peter Gray and Ed Ferko is also gratefully acknowledged.

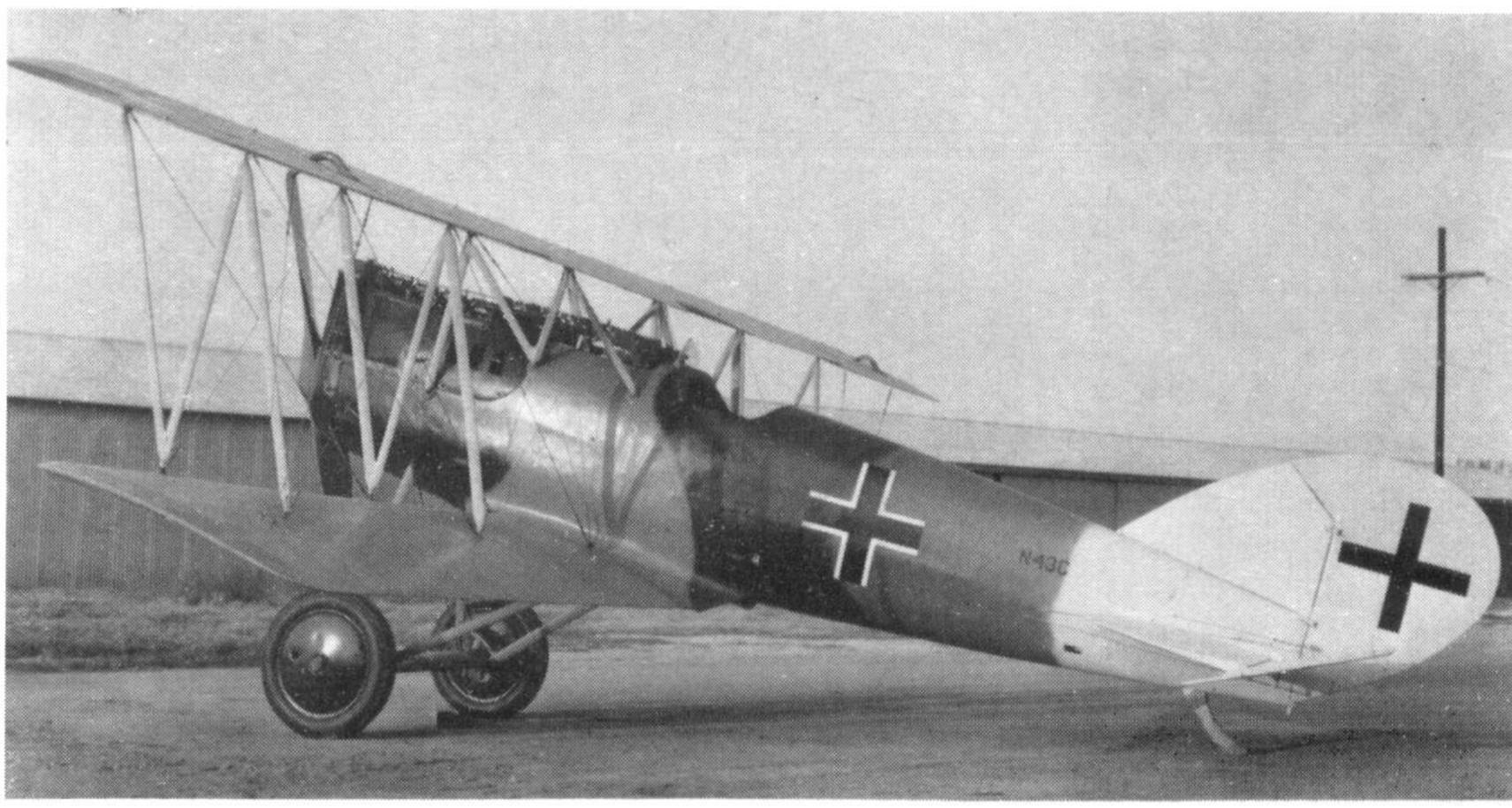
Operational and Training Units known to have operated the Pfalz D.XII.

(*Delivery dates in parentheses where known*)

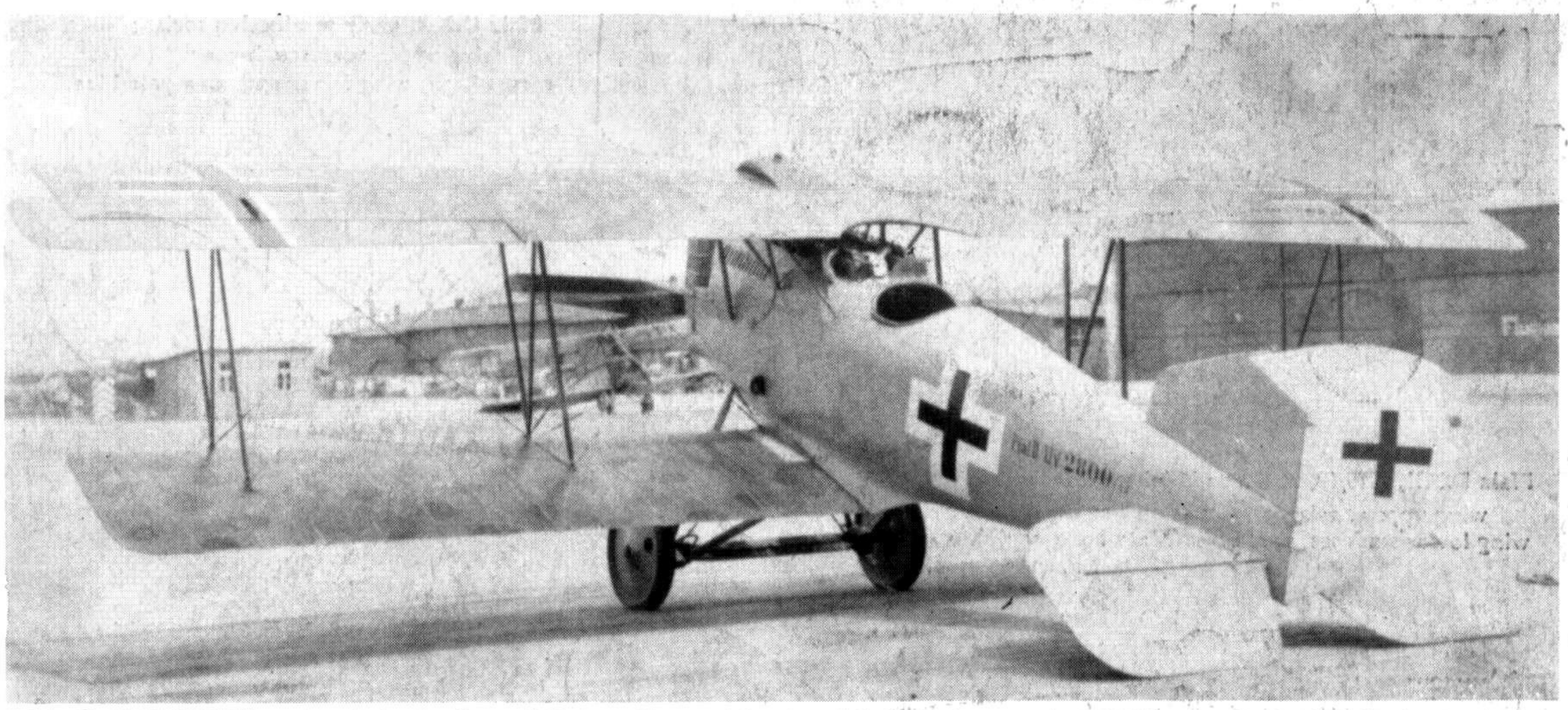
Jagdstaffel 5
Jagdstaffel 17
Jagdstaffel 23
Jagdstaffel 24 (2nd October 1918)
Jagdstaffel 32
Jagdstaffel 34
Jagdstaffel 35 (3rd September 1918)
Jagdstaffel 36 (August/September 1918)
Jagdstaffel 43 (13th August 1918)
Jagdstaffel 61 (July 1918)
Jagdstaffel 64
Jagdstaffel 65
Jagdstaffel 66
Jagdstaffel 71 (16th September 1918)
Jagdstaffel 76
Jagdstaffel 77
Jagdstaffel 78
Jagdstaffel 81
Marine Landflieger Abteilung Hage
Marine Schutzstaffel Kiel
Jagdstaffelschule Langfuhr



A D.XII beautifully restored by Buck Kennel, a property man at the Paramount Studios during 1938-39, and now in the National Air Museum. The serial number (7517/18) *is not accurate.*



Another view of Tallman's D.XII; the fourth surviving example of the type is on display at the Musée de l'Air *at Chalet-Meudon.*
(Photo: W. R. Puglisi)



Pfalz D.XIV 2800/18 *took part in the Second Fighter Competition but did not go into production due to overweight.* (Below), 2800/18 *photographed during its* Typenprüfung.

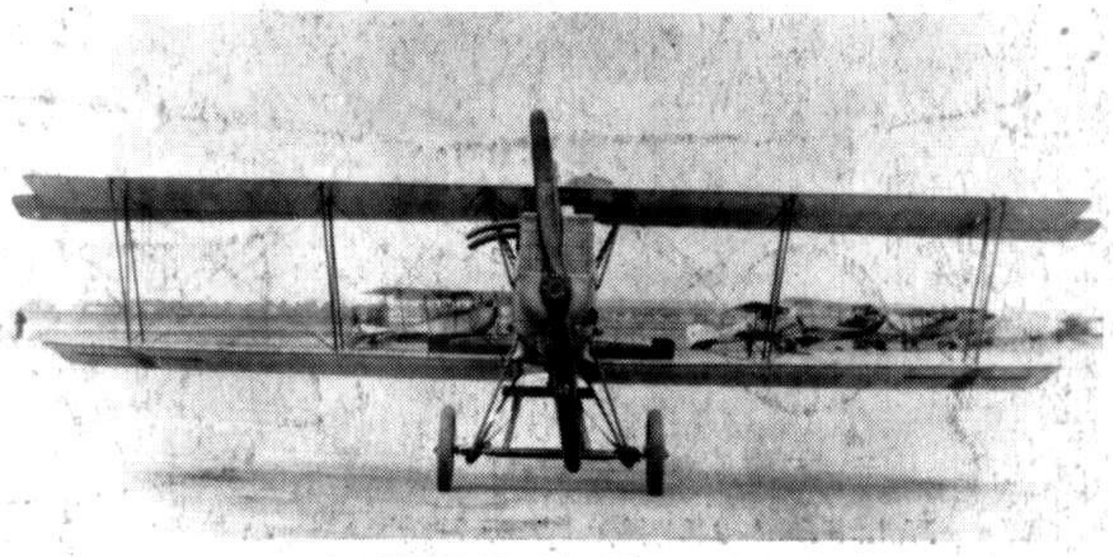


Table of Weights for Pfalz D.XII

(*from* Typenprüfung *19th June 1918*)

Weights in kilogrammes

Pilot	80,0	
2×MG 08/15	22,0	
Ammunition	25,6	
Instruments	9,1	
Fuel (1 hour)	39,0	
Oil	4,3	
Maximum useful load	180,0	180,0
Engine	298,0	
Exhaust	4,8	
Radiator	17,5	
Water	27,0	
Propeller	20,0	
Fuel Tanks	15,2	
Oil Tank	2,0	
Engine Accessories	24,0	
Total Propulsion Weight	408,5	408,5
Fuselage	165,5	
Wings	127,0	
Tail	11,0	
Miscellaneous	10,0	
Total Framework Weight	313,5	313,5
Total Combat Weight		902,0

SPECIFICATION

		Pfalz D.XII	*Pfalz D.XIV*
Wing Span: upper	(m)	9,000	10,000
lower	(m)	7,900	9,150
Length	(m)	6,350	6,320
Height	(m)	2,700	2,700
Chord: upper	(m)	1,40	1,40
lower	(m)	1,40	1,40
Gap	(m)	1,406	1,471
Wheel track	(m)	1,73	1,80
Area: wing upper	(m^2)	11,70	13,83
wing lower	(m^2)	10,00	11,60
tailplane	(m^2)	3,11	2,60
fin and rudder	(m^2)	1,18	1,30
ailerons	(m^2)	1,40	2,20
Weight: empty	(kg)	722	842
useful	(kg.)	180	190
full	(kg.)	902	1032
Dihedral: upper	(deg.)	0	0
lower	(deg.)	1,0	1,0
Wing incidence:			
at upper outer strut	(deg.)	3,0	4,5
at lower outer strut	(deg.)	3,0	3,0
at upper cabane	(deg.)	4,5	4,0
at lower cabane	(deg.)	4,0	3,5

Performance at Second Fighter Competition

(*May-June 1918*)

Type	D.XII	D.XII	D.XII	D.XIIa	D.XIV
Engine	D.IIIa	D.IIIaü	BMW.IIIa	Bz.IIIboü	Bz.IVü
Effective H.P.	170	180	195	195	200
Wing loading (kg./m²)	41,4	41,4	40,7	43,5	40,6
Power loading (kg./h.p.)	5,3	5,0	4,5	4,9	5,2
Climb (km./min.):					
0-1	3,8	2,5	2,1	4,0	2,2
1-2	4,0	3,6	3,3	4,5	3,5
2-3	5,3	5,2	3,3	5,5	5,3
3-4	7,7	7,4	3,9	6,0	5,3
4-5	14,0	12,0	5,0	12,0	5,5
5-6	—	—	7,0	—	—
Speed (km./hr.)	ca 170	ca 180	ca 185	—	ca 190

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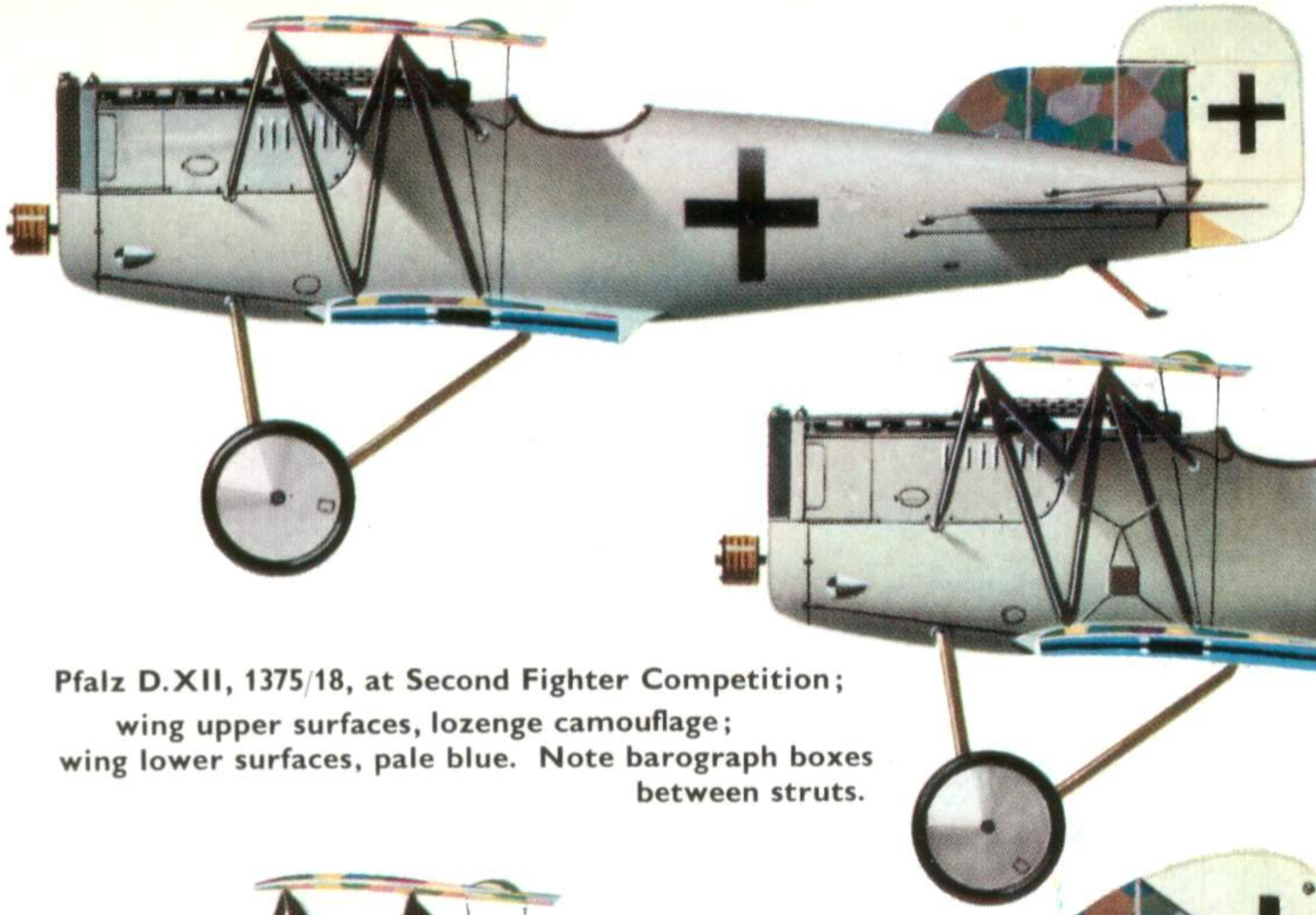
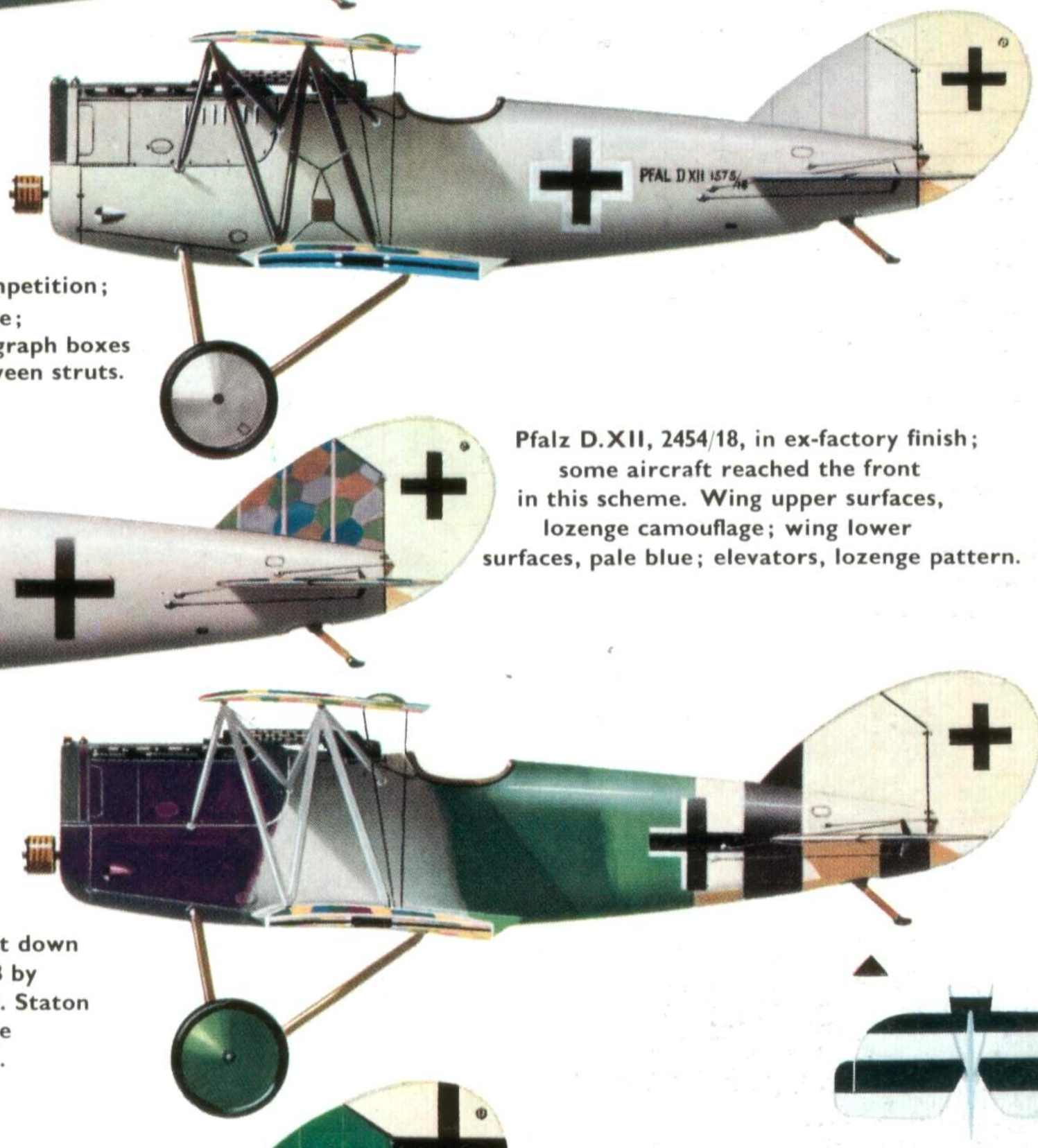
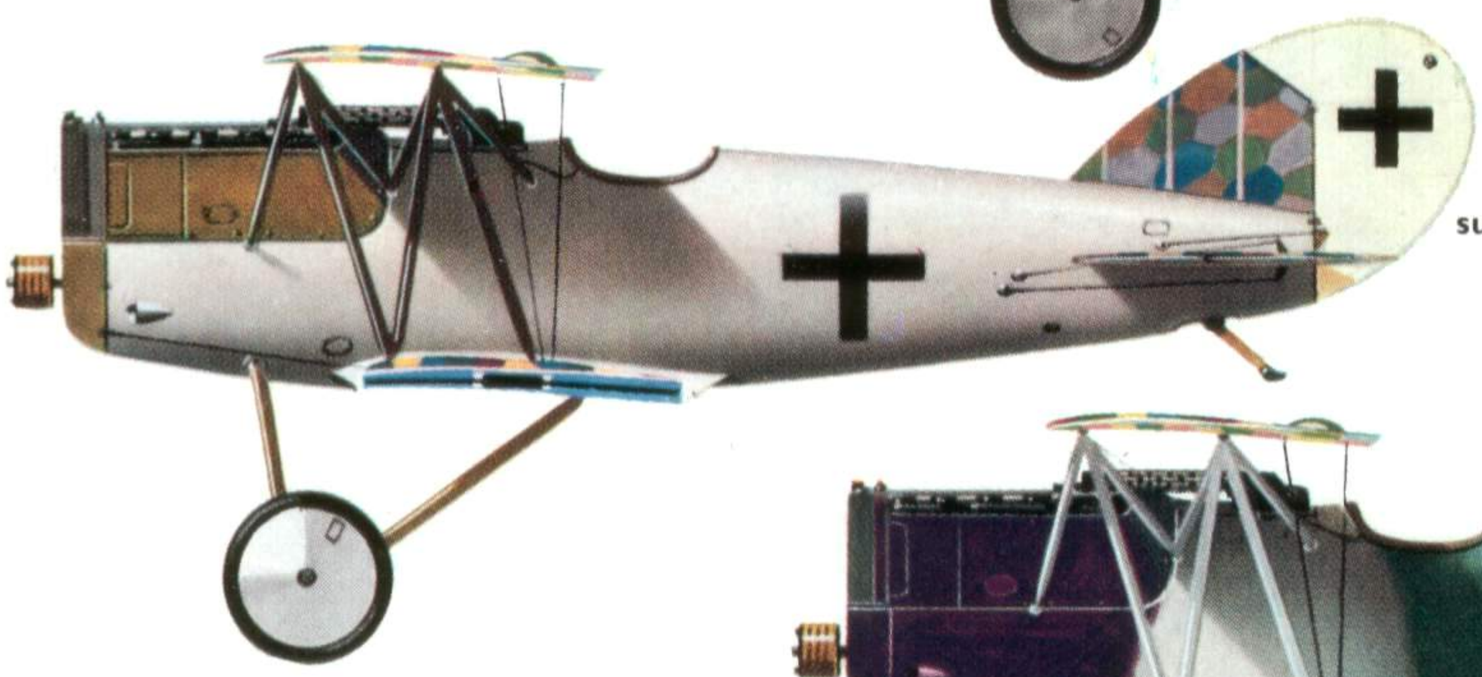


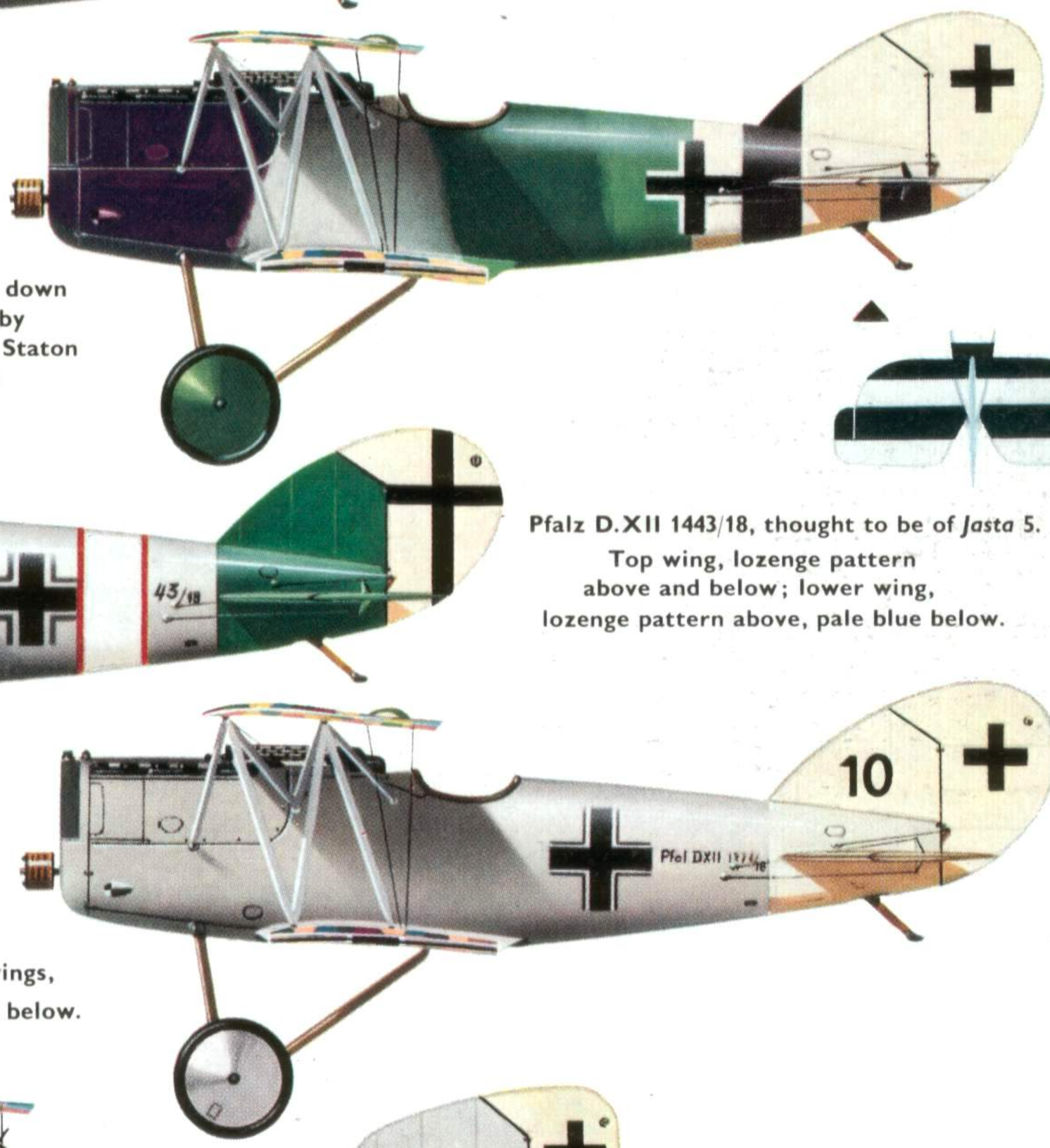
Pfalz D.XII, early production series; wing upper surfaces, lozenge camouflage; wing lower surfaces, pale blue.



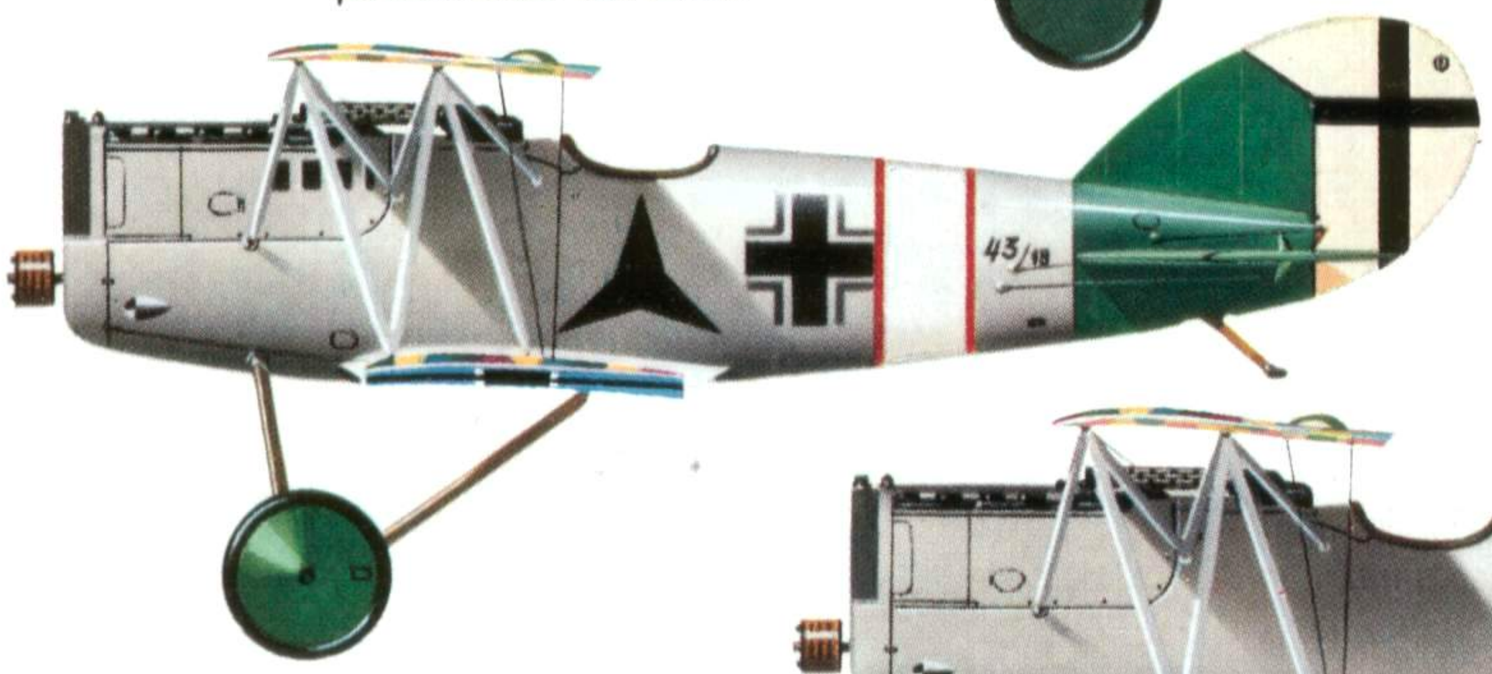
Pfalz D.XII, 1375/18, at Second Fighter Competition; wing upper surfaces, lozenge camouflage; wing lower surfaces, pale blue. Note barograph boxes between struts.



Pfalz D.XII, 2454/18, in ex-factory finish; some aircraft reached the front in this scheme. Wing upper surfaces, lozenge camouflage; wing lower surfaces, pale blue; elevators, lozenge pattern.

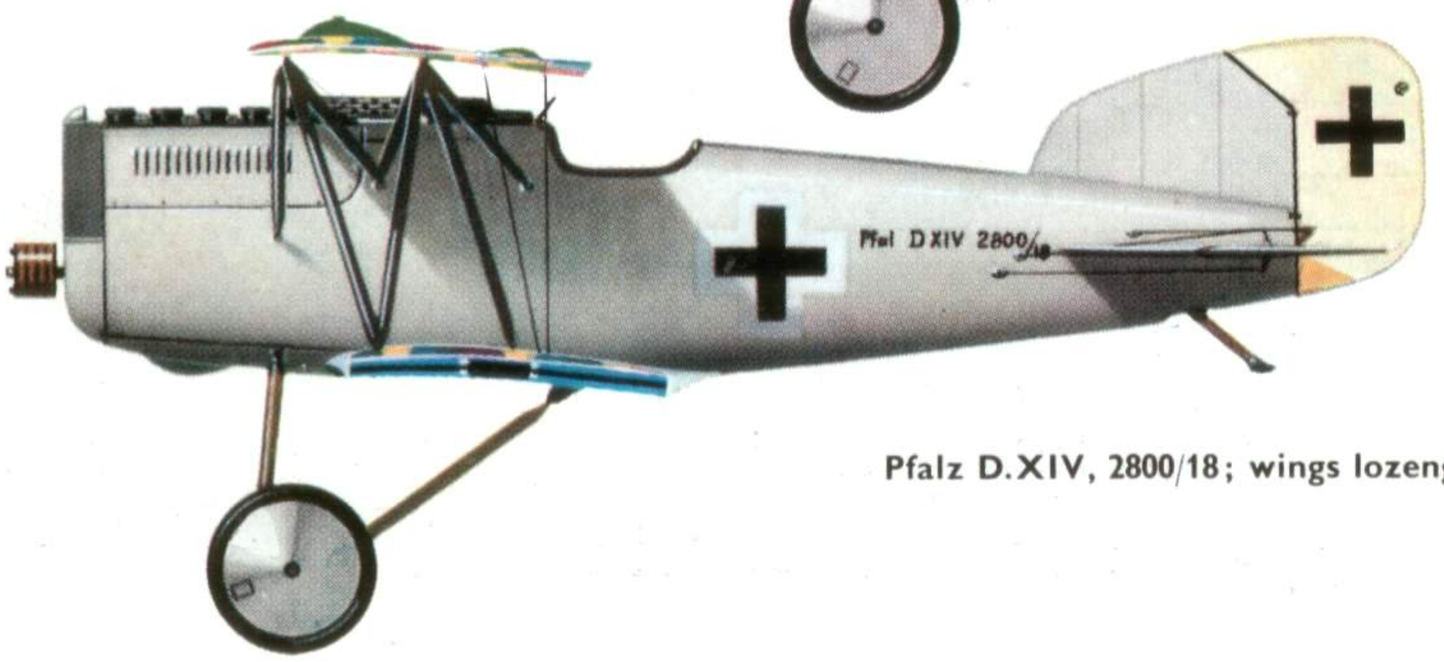


Pfalz D.XII, 2486/18, of *Jasta* 23, shot down near Drury on 15th Sept. 1918 by Lt. Cameron (No. 1 Sqn.) and Capt. Staton (No. 62 Sqn.) Wings, lozenge pattern above and below.



Pfalz D.XII 1443/18, thought to be of *Jasta* 5. Top wing, lozenge pattern above and below; lower wing, lozenge pattern above, pale blue below.

Pfalz D.XII, of *Jasta* 43; wings, lozenge pattern above and below.



Pfalz D.XIV, 2800/18; wings lozenge pattern above, pale blue below.

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